

# CHAPTER 4

## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

### PART I

#### 400A. General

The transition period for implementation of the Global Maritime Distress and Safety System (GMDSS) began on 1 February 1992 and continued to 1 February 1999. This event marked the most important change in maritime safety since the advent of radio in 1899. The proven benefits of satellite communications (high reliability, simple operation, and multi-modal capacities) are the cornerstone of this system, which relies heavily on automation and the extensive use of Inmarsat satellites. The result will be a total transformation of the existing maritime distress communications system. For further information on GMDSS see sec. 400G.

Regulations concerning distress, emergency, and safety traffic are contained in the Radio Regulations of the International Telecommunication Union (ITU), Geneva. Pertinent information is extracted below in condensed form from the 2001 edition.

#### ARTICLE 30, GENERAL PROVISIONS:

**Section I - Introduction:** This Chapter contains the provisions for the operational use of the Global Maritime Distress and Safety System (GMDSS), which is fully defined in the International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended. Distress, urgency and safety transmissions may also be made, using Morse telegraphy or radiotelephony techniques, in accordance with the provisions of Radio Regulations for distress and safety communications for non-GMDSS vessels (Appendix 13), and relevant ITU-R Recommendations.

No provision of these Regulations prevents the use by a mobile station or a mobile earth station in distress of any means at its disposal to attract attention, make known its position, and obtain help.

No provision of these Regulations prevents the use by stations on board aircraft, ships engaged in search and rescue (SAR) operations, land stations, or coast earth stations, in exceptional circumstances, of any means at their disposal to assist a mobile station or a mobile earth station in distress.

**Section II - Maritime provisions:** The provisions specified in this Chapter are obligatory in the maritime mobile service and the maritime mobile-satellite service for all stations using the frequencies and techniques prescribed for the functions set out herein. However, stations of the maritime mobile service, when fitted with

equipment used by stations operating in conformity with Radio Regulations for distress and safety communications for non-GMDSS vessels (Appendix 13), shall comply with the appropriate provisions of those Regulations.

The International Convention for the Safety of Life at Sea (SOLAS), 1974 as amended, prescribes which ships and which of their survival craft shall be provided with radio equipment, and which ships shall carry portable radio equipment for use in survival craft. It also prescribes the requirements which shall be met by such equipment.

Ship earth stations located at RCCs may be authorized by an administration to communicate for distress and safety purposes with any other station using bands allocated to the maritime mobile-satellite service, when special circumstances make it essential, notwithstanding the methods of working provided for in these Regulations.

Mobile stations of the maritime mobile service may communicate, for safety purposes, with stations of the aeronautical mobile service. Such communications shall normally be made on the frequencies authorized, and under the conditions specified in the Radio Regulations.

#### ARTICLE 31, FREQUENCIES FOR THE GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM (GMDSS):

**Section I - General:** The frequencies to be used for the transmission of distress and safety information under the GMDSS are shown in the following tables. In addition to the frequencies listed, coast stations should use other appropriate frequencies for the transmission of safety messages.

Any emission causing harmful interference to distress and safety communications on any of the discrete frequencies identified in the following tables is prohibited.

The number and duration of test transmissions shall be kept to a minimum on the frequencies identified below; they should be coordinated with a competent authority, as necessary, and, wherever practicable, be carried out on artificial antennas or with reduced power. However, testing on the distress and safety calling frequencies should be avoided, but where this is unavoidable, it should be indicated that these are test transmissions.

Before transmitting for other than distress purposes on any of the frequencies identified below for distress and safety, a station shall, where practicable, listen on the frequency concerned to make sure that no distress transmission is being sent.

## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

**Table of Frequencies below 30 MHz**

<b>Frequency (MHz)</b>	<b>Description of usage</b>	<b>Notes</b>
490	MSI	Used only for maritime safety information (MSI) in a national language through the international NAVTEX system.
518	MSI	Used only for MSI in the English language by the international NAVTEX system.
*2174.5	NBDP	Used only for distress and safety communications (traffic) using NBDP telegraphy.
*2182	RT	A carrier frequency used for distress and safety communications (traffic) by RT. 2182 kHz uses class of emission J3E.
*2187.5	DSC	Used only for distress and safety calls using digital selective calling in accordance with the Radio Regulations.
3023	AERO-SAR	An aeronautical carrier (reference) frequency which may be used for intercommunication between mobile stations engaged in coordinated SAR operations, and for communication between these stations and participating land stations.
*4125	RT	A ship station carrier frequency for calling on RT. 4125 kHz is authorized for common use by coast and ship stations for SSB RT on a simplex basis for call and reply purposes, provided the peak power does not exceed 1 kW. The use of this frequency for working purposes is not permitted. 4125 kHz is authorized for common use by coast and ship stations for SSB RT on a simplex basis for distress and safety traffic. In the United States, 4125 kHz is authorized for common use by coast and ship stations for SSB RT on a simplex basis, provided the peak power does not exceed 1 kW. Aircraft stations may use this frequency to communicate with stations of the maritime mobile service for distress and safety purposes, including SAR.
*4177.5	NBDP	Used only for distress and safety communications (traffic) using NBDP telegraphy.
*4207.5	DSC	Used only for distress and safety calls using digital selective calling in accordance with the Radio Regulations.
4209.5	MSI	Used only for NAVTEX-type transmissions.
4210	MSI-HF	Used only for the transmission of high seas MSI by coast stations to ships, by means of NBDP telegraphy, in the maritime mobile service.
5680	AERO-SAR	An aeronautical carrier (reference) frequency which may be used for intercommunication between mobile stations engaged in coordinated SAR operations, and for communication between these stations and participating land stations.
*6215	RT	A ship station carrier frequency for calling on RT. 6215 kHz is authorized for common use by coast and ship stations for SSB RT on a simplex basis for call and reply purposes, provided the peak power does not exceed 1 kW. The use of this frequency for working purposes is not permitted. 6215 kHz is authorized for common use by coast and ship stations for SSB RT on a simplex basis for distress and safety traffic. Aircraft stations may use this frequency to communicate with stations of the maritime mobile service for distress and safety purposes, including SAR.
*6268	NBDP	Used only for distress and safety communications (traffic) using NBDP telegraphy.

Note: Except as provided in these Regulations, any emission capable of causing harmful interference to distress, alarm, urgency or safety communications on the frequencies denoted by an asterisk (\*) is prohibited.

## **DISTRESS, EMERGENCY, AND SAFETY TRAFFIC**

**Table of Frequencies below 30 MHz**

<b>Frequency (MHz)</b>	<b>Description of usage</b>	<b>Notes</b>
*6312	DSC	Used only for distress and safety calls using digital selective calling in accordance with the Radio Regulations.
6314	MSI-HF	Used only for the transmission of high seas MSI by coast stations to ships, by means of NBDP telegraphy, in the maritime mobile service.
*8291	RT	Used only for distress and safety communications (traffic) by RT.
*8376.5	NBDP	Used only for distress and safety communications (traffic) using NBDP telegraphy.
*8414.5	DSC	Used only for distress and safety calls using digital selective calling in accordance with the Radio Regulations.
8416.5	MSI-HF	Used only for the transmission of high seas MSI by coast stations to ships, by means of NBDP telegraphy, in the maritime mobile service.
*12290	RT	Used only for distress and safety communications (traffic) by RT.
*12520	NBDP	Used only for distress and safety communications (traffic) using NBDP telegraphy.
*12577	DSC	Used only for distress and safety calls using digital selective calling in accordance with the Radio Regulations.
12579	MSI-HF	Used only for the transmission of high seas MSI by coast stations to ships, by means of NBDP telegraphy, in the maritime mobile service.
*16420	RT	Used only for distress and safety communications (traffic) by RT.
*16695	NBDP	Used only for distress and safety communications (traffic) using NBDP telegraphy.
*16804.5	DSC	Used only for distress and safety calls using digital selective calling in accordance with the Radio Regulations.
16806.5	MSI-HF	Used only for the transmission of high seas MSI by coast stations to ships, by means of NBDP telegraphy, in the maritime mobile service.
19680.5	MSI-HF	Used only for the transmission of high seas MSI by coast stations to ships, by means of NBDP telegraphy, in the maritime mobile service.
22376	MSI-HF	Used only for the transmission of high seas MSI by coast stations to ships, by means of NBDP telegraphy, in the maritime mobile service.
26100.5	MSI-HF	Used only for the transmission of high seas MSI by coast stations to ships, by means of NBDP telegraphy, in the maritime mobile service.

Note: Except as provided in these Regulations, any emission capable of causing harmful interference to distress, alarm, urgency or safety communications on the frequencies denoted by an asterisk (\*) is prohibited.

## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

**Table of Frequencies above 30 MHz**

<b>Frequency (MHz)</b>	<b>Description of usage</b>	<b>Notes</b>
*121.5	AERO-SAR	<p>The aeronautical emergency frequency 121.5 MHz is used for the purposes of distress and urgency for RT by stations of the aeronautical mobile service using frequencies in the band between 117.975 MHz and 137 MHz. This frequency may also be used for these purposes by survival craft stations. EPIRBs use this frequency as indicated in the Radio Regulations.</p> <p>Mobile stations of the maritime mobile service may communicate with stations of the aeronautical mobile service on the aeronautical emergency frequency 121.5 MHz for the purposes of distress and urgency only, and on the aeronautical auxiliary frequency 123.1 MHz for coordinated SAR operations, using class A3E emissions for both frequencies. They shall then comply with any special arrangement between governments concerned by which the aeronautical mobile service is regulated.</p>
123.1	AERO-SAR	<p>The aeronautical auxiliary frequency 123.1 MHz, which is auxiliary to the aeronautical emergency frequency 121.5 MHz, is for use by stations of the aeronautical mobile service and by other mobile and land stations engaged in coordinated SAR operations.</p> <p>Mobile stations of the maritime mobile service may communicate with stations of the aeronautical mobile service on the aeronautical emergency frequency 121.5 MHz for the purposes of distress and urgency only, and on the aeronautical auxiliary frequency 123.1 MHz for coordinated SAR operations, using class A3E emissions for both frequencies. They shall then comply with any special arrangement between governments concerned by which the aeronautical mobile service is regulated.</p>
156.3	VHF (Ch. 06)	Used for communication between ship stations and aircraft stations engaged in coordinated SAR operations. It may also be used by aircraft stations to communicate with ship stations for other safety purposes. Ship stations shall avoid harmful interference to such communications on Ch. 06 as well as to communications between aircraft stations, ice-breakers and assisted ships during ice seasons.
*156.525	VHF (Ch. 70)	Used in the maritime mobile service for distress and safety calls using digital selective calling.
156.650	VHF (Ch. 13)	Used on a worldwide basis for ship-to-ship communications relating to the safety of navigation. It may also be used for the ship movement and port operations service subject to the national regulations of the administrations concerned.
*156.8	VHF (Ch. 16)	Used for distress and safety communications by RT. It may also be used by aircraft stations for safety purposes only.
*406-406.1	406-EPIRB	This frequency band is used only by satellite EPIRBs in the Earth-to-space direction.
1530-1544	SAT-COM	In addition to its availability for routine non-safety purposes, this frequency band is used for distress and safety purposes in the space-to-Earth direction in the maritime mobile-satellite service. GMDSS distress, urgency and safety communications have priority in this band.
*1544-1545	D&S-OPS	Use of this band (space-to-Earth) is limited to distress and safety operations, including feeder links of satellites needed to relay emissions of satellite EPIRBs to earth stations and narrow-band (space-to-Earth) links from space stations to mobile stations.

Note: Except as provided in these Regulations, any emission capable of causing harmful interference to distress, alarm, urgency or safety communications on the frequencies denoted by an asterisk (\*) is prohibited.

## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

**Table of Frequencies above 30 MHz**

Frequency (MHz)	Description of usage	Notes
1626.5-1645.5	SAT-COM	In addition to its availability for routine non-safety purposes, this frequency band is used for distress and safety purposes in the Earth-to-space direction in the maritime mobile-satellite service. GMDSS distress, urgency and safety communications have priority in this band.
*1645.5-1646.5	D&S-OPS	Use of this band (Earth-to-space) is limited to distress and safety operations, including transmissions from satellite EPIRBs and relay of distress alerts received by satellites in low polar Earth orbits to geostationary satellites.
9200-9500	SARTS	Used by radar transponders to facilitate SAR.

Note: Except as provided in these Regulations, any emission capable of causing harmful interference to distress, alarm, urgency or safety communications on the frequencies denoted by an asterisk (\*) is prohibited.

**Section II - Survival craft stations:** Equipment for radiotelephony use in survival craft stations shall, if capable of operating on any frequency in the bands between 156 MHz and 174 MHz, be able to transmit and receive on 156.8 MHz and at least one other frequency in these bands.

Equipment for transmitting locating signals from survival craft stations shall be capable of operating in the 9200-9500 MHz band.

Equipment with DSC facilities for use in survival craft shall, if capable of operating in the bands between:

- 1605 and 2850 kHz, be able to transmit on 2187.5 kHz;
- 4000 and 27500 kHz, be able to transmit on 8414.5 kHz;
- 156 and 174 MHz, be able to transmit on 156.525 MHz.

### **Section III - Watchkeeping:**

**(A) - Coast stations:** Those coast stations assuming a watch-keeping responsibility in the GMDSS shall maintain an automatic DSC watch on frequencies and for periods of time as indicated in the information published in the List of Coast Stations.

**(B) - Coast earth stations:** Those coast earth stations assuming a watch-keeping responsibility in the GMDSS shall maintain a continuous automatic watch for appropriate distress alerts relayed by space stations.

**(C) - Ship stations:** Ship stations, where so equipped, shall, while at sea, maintain an automatic DSC watch on the appropriate distress and safety calling frequencies in the frequency bands in which they are operating. Ship stations, where so equipped, shall also maintain watch on the appropriate frequencies for the automatic reception of transmissions of meteorological and navigational warnings and other urgent information to ships. However, ship stations shall also continue to apply the appropriate watch-keeping provisions of the Radio Regulations for distress and safety communications for non-GMDSS vessels (Appendix 13).

NOTE: Listening watches on 2182 kHz are no longer mandatory. Until 1 February 2005, every ship while at sea shall maintain, when practicable, a continuous listening

watch on VHF Ch. 16; such a watch shall be kept at the position from which the ship is normally navigated.

Ship stations complying with the provisions of the Radio Regulations should, where practicable, maintain a watch on the frequency 156.650 MHz (VHF Ch. 13) for communications related to the safety of navigation.

**(D) - Ship earth stations:** Ship earth stations complying with the provisions of the Radio Regulations shall, while at sea, maintain watch except when communicating on a working channel.

## **ARTICLE 32, OPERATIONAL PROCEDURES FOR DISTRESS AND SAFETY COMMUNICATIONS IN THE GMDSS:**

**Section I - General:** Distress and safety communications rely on the use of terrestrial MF, HF and VHF radiocommunications and communications using satellite techniques.

The distress alert shall be sent through a satellite either with absolute priority in general communication channels or on exclusive distress and safety frequencies or, alternatively, on the distress and safety frequencies in MF, HF and VHF bands using DSC.

The distress alert shall be sent only on the authority of the person responsible for the ship, aircraft or other vehicle carrying the mobile station or the mobile earth station.

All stations which receive a distress alert transmitted by DSC shall immediately cease any transmission capable of interfering with distress traffic and shall continue watch until the call has been acknowledged.

DSC shall be in accordance with the relevant ITU-R Recommendations.

Each administration shall ensure that suitable arrangements are made for assigning and registering identities used by ships participating in the GMDSS, and shall make registration information available to RCCs on a 24-hour day, 7-day week basis. Where appropriate, administrations shall notify responsible organizations immediately of additions, deletions and other changes in these assignments. Registration information shall be in accordance with the Radio Regulations (Resolution 340).

## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

Any GMDSS shipboard equipment which is capable of transmitting position coordinates as part of a distress alert message and which does not have an integral electronic position-fixing system receiver shall be interconnected to a separate navigation receiver, if one is installed, to provide that information automatically.

Transmissions by radiotelephony shall be made slowly and distinctly, each word being clearly pronounced to facilitate transcription.

The Phonetic Alphabet and Figure Code, and the abbreviations and prosigns listed below, in accordance with the Radio Regulations, should be used where applicable. The Standard Marine Communication Phrases (published by the International Maritime Organization (IMO)) and the International Code of Signals (CDPUBNV102) are also recommended for use. (NOTE: Three-letter signals (Q Code) are also listed in ACP 131, Communications Instructions, Operating Signals.)

AA - All After  
AB - All Before  
ADS - Address  
 $\overline{AR}$  - End of transmission (in telegraphy, a bar over the letters means they are sent as one signal: • – • – • )  
 $\overline{AS}$  - Waiting period  
BK - Interruption of transmission in progress  
BN - All between  
BQ - Reply to RQ  
 $\overline{BT}$  - Separation between parts of a transmission  
C - Affirmative  
CFM - Confirm/I confirm  
CL - I am closing my station  
COL - Collate/I collate  
CORRECTION - Cancel last word or group  
CP - General call to two or more specified stations  
CQ - General call to all stations  
CS - Request for call sign  
DE - From  
DF - Precede time, bearing, possible error  
DO - Bearing doubtful, request again at specified time  
DSC - Digital selective calling  
E - East  
ETA - Estimated time of arrival  
INTERCO - Signals from International Code will follow  
K - Invitation to transmit  
 $\overline{KA}$  - Starting signal  
KTS - Knots  
MIN - Minutes  
MSG - Prefix indicating message to or from Master regarding ship's operation or navigation  
MSI - Marine safety information  
N - North  
NBDP - Narrow band direct printing telegraphy  
NIL - I have nothing to send you  
NO - Negative  
NW - Now  
NX - Notice to Mariners  
OK - It is correct  
OL - Ocean letter  
P - Prefix indicating private radiotelegram

PBL - Preamble, used after question mark in telegraphy,  
RQ in telephony, or RPT, to request repetition  
PSE - Please  
R - Received  
RCC - Rescue coordination center  
REF - Reference  
RPT - Repeat  
RQ - Request  
S - South  
SAR - Search and rescue  
SIG - Signature, used after question mark in radiotelegraphy,  
RQ in telephony, or RPT, to request repetition  
SLT - Radiomaritime letter  
SVC - Prefix indicating service message  
SYS - Refer to your service message  
TFC - Traffic  
TR - Land station request for position and next port of call;  
also precedes response  
TU - Thank you  
TXT - Text  
 $\overline{VA}$  - End of work  
W - West  
WA - Word after  
WB - Word before  
WD - Word(s) or group(s)  
WX - Weather  
XQ - Prefix indicating service note  
YZ - Plain language

### Section II - Distress alerting:

(A) - **General:** The transmission of a distress alert indicates that a mobile unit (ship, aircraft or other vehicle) or person is threatened by grave and imminent danger and requests immediate assistance. The distress alert is a digital selective call using distress call format in the bands used for terrestrial radiocommunication or a distress message format, in which case it is relayed through space stations. (The format of distress calls and distress messages shall be in accordance with the relevant ITU-R Recommendations.)

The distress alert shall provide the identification of the station in distress and its position. (It may also contain information regarding the nature of the distress, the type of assistance required, the course and speed of the mobile unit, the time that this information was recorded and any other information which might facilitate rescue.)

A distress alert is false if it was transmitted without any indication that a mobile unit or person was in distress and required immediate assistance. Administrations receiving a false distress alert shall report this infringement, if that alert:

- was transmitted intentionally;
- was not cancelled in accordance with the Radio Regulations (Resolution 349);
- could not be verified as a result of either the ship's failure to keep watch on appropriate frequencies in accordance with the Radio Regulations, or its failure to respond to calls from an authorized rescue authority;
- was repeated; or
- was transmitted using a false identity.

## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

Administrations receiving such a report shall take appropriate steps to ensure that the infringement does not recur. No action should normally be taken against any ship or mariner for reporting and cancelling a false distress alert.

### **(B) - Transmission of a distress alert:**

- (B1) - Transmission of a distress alert by a ship station or a ship earth station: Ship-to-shore distress alerts are used to alert RCCs via coast stations or coast earth stations that a ship is in distress. These alerts are based on the use of transmissions via satellites (from a ship earth station or satellite EPIRB) and terrestrial services (from ship stations and EPIRBs).

Ship-to-ship distress alerts are used to alert other ships in the vicinity of the ship in distress and are based on the use of DSC in the VHF and MF bands. Additionally, the HF band may be used.

- (B2) - Transmission of a shore-to-ship distress alert relay: A station or RCC which receives a distress alert shall initiate the transmission of a shore-to-ship distress alert relay addressed, as appropriate, to all ships, to a selected group of ships or to a specific ship by satellite and/or terrestrial means.

The distress alert relay shall contain the identification of the mobile unit in distress, its position and all other information which might facilitate rescue.

- (B3) - Transmission of a distress alert by a station not itself in distress: A station in the mobile or mobile-satellite service which learns that a mobile unit is in distress shall initiate and transmit a distress alert in any of the following cases:
  - when the mobile unit in distress is not itself in a position to transmit the distress alert;
  - when the Master or person responsible for the mobile unit not in distress considers further help is necessary.

A station transmitting a distress alert relay, in accordance with the Radio Regulations, shall indicate that it is not itself in distress.

### **(C) - Receipt and acknowledgment of distress alerts:**

- (C1) - Procedure for acknowledgment of receipt of distress alerts: Acknowledgment by DSC of receipt of a distress alert in the terrestrial services shall be in accordance with relevant ITU-R Recommendations. (For further information on procedures for DSC distress alerts, acknowledgments and relays see sec. 400J.)

Acknowledgment through a satellite of receipt of a distress alert from a ship earth station shall be sent immediately.

Acknowledgment by radiotelephony of receipt of a distress alert from a ship station or a ship earth station shall be given in the following form:

- the distress signal MAYDAY;
- the call sign or other identification of the station sending the distress message, spoken three times;
- the words THIS IS (or DE spoken as DELTA ECHO in case of language difficulties);
- the call sign or other identification of the station acknowledging receipt, spoken three times;
- the word RECEIVED (or RRR spoken as ROMEO ROMEO ROMEO in case of language difficulties);

- the distress signal MAYDAY.

The acknowledgment by direct printing telegraphy of receipt of a distress alert from a ship station shall be given in the following form:

- the distress signal MAYDAY;
- the call sign or other identification of the station sending the distress alert;
- the word DE;
- the call sign or other identification of the station acknowledging receipt of the distress alert;
- the signal RRR;
- the distress signal MAYDAY.

The acknowledgment by direct printing telegraphy of receipt of a distress alert from a ship earth station shall be given by the coast earth station receiving the distress alert, by retransmitting the ship station identity of the ship transmitting the distress alert.

- (C2) - Receipt and acknowledgment of receipt by a coast station, a coast earth station or a RCC: Coast stations and appropriate coast earth stations in receipt of distress alerts shall ensure that they are routed as soon as possible to a RCC. Receipt of a distress alert is to be acknowledged as soon as possible by a coast station, or by a RCC via a coast station or an appropriate coast earth station.

A coast station using DSC to acknowledge a distress call shall transmit the acknowledgment on the distress calling frequency on which the call was received and should address it to all ships. The acknowledgment shall include the identification of the ship whose distress call is being acknowledged.

- (C3) - Receipt and acknowledgment of receipt by a ship station or ship earth station: Ship or ship earth stations in receipt of a distress alert shall, as soon as possible, inform the Master or person responsible for the ship of the contents of the distress alert.

In areas where reliable communications with one or more coast stations are practicable, ship stations in receipt of a distress alert should defer acknowledgment for a short interval so that receipt may be acknowledged by a coast station.

Ship stations operating in areas where reliable communications with a coast station are not practicable which receive a distress alert from a ship station which is, beyond doubt, in their vicinity, shall, as soon as possible and if appropriately equipped, acknowledge receipt and inform a RCC through a coast station or coast earth station.

However, a ship station receiving an HF distress alert shall not acknowledge it but shall observe the provisions of *D* below, and shall, if the alert is not acknowledged by a coast station within 3 minutes, relay the distress alert.

A ship station acknowledging receipt of a distress alert in accordance with *C3* above should:

- in the first instance, acknowledge receipt of the alert by using radiotelephony on the distress and safety traffic frequency in the band used for the alert;
- if acknowledgment by radiotelephony of the distress alert received on the MF or VHF distress alerting frequency is unsuccessful, acknowledge receipt of the

## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

distress alert by responding with a digital selective call on the appropriate frequency.

A ship station in receipt of a shore-to-ship distress alert should establish communication as directed and render such assistance as required and appropriate.

**(D) - Preparations for handling of distress traffic:** On receipt of a distress alert transmitted by use of DSC techniques, ship stations and coast stations shall set watch on the radiotelephone distress and safety traffic frequency associated with the distress and safety calling frequency on which the distress alert was received.

Coast stations and ship stations with NBDP equipment shall set watch on the NBDP frequency associated with the distress alert signal if it indicates that NBDP is to be used for subsequent distress communications. If practicable, they should additionally set watch on the radiotelephone frequency associated with the distress alert frequency.

### Section III - Distress traffic:

**(A) - General and SAR coordinating communications:** Distress traffic consists of all messages relating to the immediate assistance required by the ship in distress, including SAR communications and on scene communications. The distress traffic shall as far as possible be on the frequencies contained in Article 31 (see above).

The distress signal consists of the word MAYDAY.

For distress traffic by radiotelephony, when establishing communications, calls shall be prefixed by the distress signal MAYDAY.

Error correction techniques in accordance with relevant ITU-R Recommendations shall be used for distress traffic by direct printing telegraphy. All messages shall be preceded by at least one carriage return, a line feed signal, a letter shift signal and the distress signal MAYDAY.

Distress communications by direct printing telegraphy should normally be established by the ship in distress and should be in the broadcast (forward error correction) mode. The ARQ mode may subsequently be used when it is advantageous to do so.

The RCC responsible for controlling a SAR operation shall also coordinate the distress traffic relating to the incident or may appoint another station to do so.

The RCC coordinating distress traffic, the unit coordinating SAR operations (the On Scene Commander (OSC) or Coordinator Surface Search (CSS)) or the coast station involved may impose silence on stations which interfere with that traffic. This instruction shall be addressed to all stations or to one station only, according to circumstances. In either case, the following shall be used:

- in radiotelephony, the signal SEELONCE MAYDAY;
  - in NBDP telegraphy normally using forward error correcting mode, the signal SILENCE MAYDAY.
- However, the ARQ mode may be used when it is advantageous to do so.

Until they receive the message indicating that normal working may be resumed, all stations which are aware of the distress traffic, and which are not taking part in it, and which are not in distress, are forbidden to transmit on the frequencies in which the distress traffic is taking place.

A station of the mobile service which, while following distress traffic, is able to continue its normal service, may

do so when the distress traffic is well established and on condition that it observes the provisions of the above paragraph and that it does not interfere with distress traffic.

When distress traffic has ceased on frequencies which have been used for distress traffic, the RCC controlling a SAR operation shall initiate a message for transmission on these frequencies indicating that distress traffic has finished.

In radiotelephony, the message referred to in the above paragraph consists of:

- the distress signal MAYDAY;
- the call “Hello all stations” or CQ (spoken as CHARLIE QUEBEC) spoken three times;
- the words THIS IS (or DE spoken as DELTA ECHO in the case of language difficulties);
- the call sign or other identification of the station sending the message;
- the time of handing in of the message;
- the name and call sign of the mobile station which was in distress;
- the words SEELONCE FEENEE.

In direct printing telegraphy, the message referred to in the above paragraph consists of:

- the distress signal MAYDAY;
- the call CQ;
- the word DE;
- the call sign or other identification of the station sending the message;
- the time of handing in of the message;
- the name and call sign of the mobile station which was in distress; and
- the words SILENCE FINI.

**(B) - On scene communications:** On scene communications are those between the mobile unit in distress and assisting mobile units, and between the mobile units and the unit coordinating SAR operations (the OSC or CSS).

Control of on scene communications is the responsibility of the unit coordinating SAR operations. Simplex communications shall be used so that all on scene mobile stations may share relevant information concerning the distress incident. If direct printing telegraphy is used, it shall be in the forward error correcting mode.

The preferred frequencies in radiotelephony for on scene communications are 156.8 MHz (VHF Ch. 16) and 2182 kHz. The frequency 2174.5 kHz may also be used for ship-to-ship on scene communications using NBDP telegraphy in the forward error correcting mode.

In addition, the frequencies 3023 kHz, 4125 kHz, 5680 kHz, 123.1 MHz, and 156.3 MHz (VHF Ch. 06) may be used for ship-to-aircraft on scene communications.

The selection or designation of on scene frequencies is the responsibility of the unit coordinating SAR operations. Normally, once an on scene frequency is established, a continuous aural or teleprinter watch is maintained by all participating on scene mobile units on the selected frequency.

**(C) - Locating and homing signals:** Locating signals are radio transmissions intended to facilitate the finding of a mobile unit in distress or the location of survivors. These



## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

signals include those transmitted by searching units, and those transmitted by the mobile unit in distress, by survival craft, by float-free EPIRBs, by satellite EPIRBs and by SAR radar transponders to assist the searching units.

Homing signals are those locating signals which are transmitted by mobile units in distress, or by survival craft, for the purpose of providing searching units with a signal that can be used to determine the bearing to the transmitting stations.

Locating signals may be transmitted in the following frequency bands:

- 117.975-136 MHz;
- 156-174 MHz;
- 406-406.1 MHz;
- 1645.5-1646.5 MHz; and
- 9200-9500 MHz.

Locating signals shall be in accordance with the relevant ITU-R Recommendations.

### ARTICLE 33, OPERATIONAL PROCEDURES FOR URGENCY AND SAFETY COMMUNICATIONS IN THE GMDSS:

**Section I - General:** Urgency and safety communications include:

- navigational and meteorological warnings and urgent information;
- ship-to-ship safety of navigation communications;
- ship reporting communications;
- support communications for SAR operations;
- other urgency and safety messages;
- communications relating to navigation, movements and needs of ships, and weather observation messages destined for an official meteorological service.

**Section II - Urgency communications:** In a terrestrial system the announcement of the urgency message shall be made on one or more of the distress and safety calling frequencies as specified using DSC and the urgency call format. A separate announcement need not be made if the urgency message is to be transmitted through the maritime mobile-satellite service.

The urgency signal and message shall be transmitted on one or more of the distress and safety traffic frequencies specified, or via the maritime mobile-satellite service or on other frequencies used for this purpose.

The urgency signal consists of the words PAN PAN.

The urgency call format and the urgency signal indicate that the calling station has a very urgent message to transmit concerning the safety of a mobile unit or a person.

In radiotelephony, the urgency message shall be preceded by the urgency signal (PAN PAN), repeated three times, and the identification of the transmitting station.

In NBDP, the urgency message shall be preceded by the urgency signal (PAN PAN) and the identification of the transmitting station.

The urgency call format or urgency signal shall be sent only on the authority of the Master or the person responsible for the mobile unit carrying the mobile station or mobile earth station.

The urgency call format or the urgency signal may be transmitted by a land station or a coast earth station with the approval of the responsible authority.

When an urgency message which calls for action by the stations receiving the message has been transmitted, the station responsible for its transmission shall cancel it as soon as it knows that action is no longer necessary.

Error correction techniques in accordance with relevant ITU-R Recommendations shall be used for urgency messages by direct printing telegraphy. All messages shall be preceded by at least one carriage return, a line feed signal, a letter shift signal and the urgency signal PAN PAN.

Urgency communications by direct printing telegraphy should normally be established in the broadcast (forward error correction) mode. The ARQ mode may subsequently be used when it is advantageous to do so.

**Section III - Medical transports:** The term “medical transports,” as defined in the 1949 Geneva Conventions and Additional Protocols, refers to any means of transportation by land, water or air, whether military or civilian, permanent or temporary, assigned exclusively to medical transportation and under the control of a competent authority of a party to a conflict or of neutral States and of other States not parties to an armed conflict, when these ships, craft, and aircraft assist the wounded, the sick and the shipwrecked.

For the purpose of announcing and identifying medical transports which are protected under the above-mentioned Conventions, the procedure of Section II of this Article (urgency communications) is used. The urgency signal (PAN PAN) shall be followed by the addition of the single word MEDICAL in NDBP and by the addition of the single word “MAY-DEE-CAL,” in radiotelephony.

The use of the signals described in the above paragraph indicates that the message which follows concerns a protected medical transport. The message shall convey the following data:

- call sign or other recognized means of identification of the medical transport;
- position of the medical transport;
- number and type of vehicles in the medical transport;
- intended route;
- estimated time enroute and of departure and arrival, as appropriate;
- any other information, such as flight altitude, radio frequencies guarded, languages used and secondary surveillance radar modes and codes.

The identification and location of medical transports at sea may be conveyed by means of appropriate standard maritime radar transponders.

The identification and location of aircraft medical transports may be conveyed by the use of the secondary surveillance radar (SSR) system specified in Annex 10 to the Convention on International Civil Aviation.

The use of radiocommunications for announcing and identifying medical transports is optional; however, if they are used, the provisions of the above Regulations shall apply.

## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

**Section IV - Safety communications:** In a terrestrial system the announcement of the safety message shall be made on one or more of the distress and safety calling frequencies as specified using DSC techniques. A separate announcement need not be made if the message is to be transmitted through the maritime mobile-satellite service.

The safety signal and message shall normally be transmitted on one or more of the distress and safety traffic frequencies specified, or via the maritime mobile-satellite service or on other frequencies used for this purpose.

The safety signal consists of the word SECURITE.

The safety call format or the safety signal indicates that the calling station has an important navigational or meteorological warning to transmit.

In radiotelephony, the safety message shall be preceded by the safety signal (SECURITE, spoken SECURITAY) repeated three times, and identification of the transmitting station.

In NBDP, the safety message shall be preceded by the safety signal (SECURITE), and the identification of the transmitting station.

Error correction techniques in accordance with relevant ITU-R Recommendations shall be used for safety messages by direct printing telegraphy. All messages shall be preceded by at least one carriage return, a line feed signal, a letter shift signal and the safety signal SECURITE.

Safety communications by direct printing telegraphy should normally be established in the broadcast (forward error correction) mode. The ARQ mode may subsequently be used when it is advantageous to do so.

**Section V - Transmission of Maritime Safety Information (MSI):** (MSI includes navigation and meteorological warnings, meteorological forecasts and other urgent messages pertaining to safety normally transmitted to or from ships, between ships and between ship and coast stations or coast earth stations.)

**(A) - General:** Messages from ship stations containing information concerning the presence of cyclones shall be transmitted, with the least possible delay, to other mobile stations in the vicinity and to the appropriate authorities at the first point of the coast with which contact can be established. These transmissions shall be preceded by the safety signal.

Messages from ship stations containing information on the presence of dangerous ice, dangerous wrecks, or any other imminent danger to marine navigation, shall be transmitted as soon as possible to other ships in the vicinity, and to the appropriate authorities at the first point of the coast with which contact can be established. These transmissions shall be preceded by the safety signal.

The operational details of the stations transmitting MSI in accordance with the provisions of *B*, *C*, *D*, and *E* below shall be indicated in the List of Radiodetermination and Special Service Stations. (In Pub. 117, see station listings in sec. 300J, 300L and 400I.)

The mode and format of the transmissions mentioned in *B*, *C* and *D* below shall be in accordance with the relevant ITU-R Recommendations.

**(B) - International NAVTEX system:** MSI shall be transmitted by means of NBDP telegraphy with forward error correction using the frequency 518 kHz in accordance with the international NAVTEX system.

**(C) - 490 kHz and 4209.5 kHz:** The frequency 490 kHz may be used for the transmission of MSI by means of NBDP telegraphy with forward error correction.

The frequency 4209.5 kHz is used exclusively for NAVTEX-type transmissions by means of NBDP telegraphy with forward error correction.

**(D) - High seas MSI:** MSI is transmitted by means of NBDP telegraphy with forward error correction using the frequencies 4210 kHz, 6314 kHz, 8416.5 kHz, 12579 kHz, 16806.5 kHz, 19680.5 kHz, 22376 kHz and 26100.5 kHz.

**(E) - MSI via satellite:** MSI may be transmitted via satellite in the maritime mobile-satellite service using the band 1530-1545 MHz.

**Section VI - Intership navigation safety communications:** Intership navigation safety communications are those VHF radiotelephone communications conducted between ships for the purpose of contributing to the safe movement of ships.

The frequency 156.650 MHz (VHF Ch. 13) is used for intership navigation safety communications.

**Section VII - Use of other frequencies for distress and safety:** Radiocommunications for distress and safety purposes may be conducted on any appropriate communications frequency, including those used for public correspondence. In the maritime mobile-satellite service, frequencies in the bands 1530-1544 MHz and 1626.5-1645.5 MHz are used for this function as well as for distress alerting purposes.

**Section VIII - Medical advice:** Mobile stations requiring medical advice may obtain it through any of the land stations shown in the List of Radiodetermination and Special Service Stations. (In Pub. 117, see sec. 500B.)

Communications concerning medical advice may be preceded by the urgency signal.

## ARTICLE 34, ALERTING SIGNALS IN THE GMDSS:

**Section I - EPIRB and Satellite EPIRB Signals:** The EPIRB signal transmitted on 156.525 MHz and satellite EPIRB signals in the band 406-406.1 MHz or 1645.5-1646.5 MHz shall be in accordance with relevant ITU-R Recommendations.

**Section II - Digital selective calling (DSC):** The characteristics of the "distress call" in DSC system shall be in accordance with relevant ITU-R Recommendations.

## 400B. Obligations and Responsibilities of U.S. Vessels

It is the accepted normal practice of seamen (and there are obligations upon Masters), to render assistance when a person or persons are in distress at sea. These obligations are set out in Regulation 10 of Chapter V of the 1974 SOLAS Convention (1974), to which the United States is signatory:

## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

### *Distress Messages—Obligations and Procedures*

- (a) The Master of a ship at sea, on receiving a signal from any source that a ship or aircraft or survival craft thereof is in distress, is bound to proceed with all speed to the assistance of the persons in distress, informing them, if possible, that he is doing so. If he is unable or, in the special circumstances of the case, considers it unreasonable or unnecessary to proceed to their assistance, he must enter in the logbook the reason for failing to proceed to the assistance of the persons in distress.
- (b) The Master of a ship in distress, after consultation, so far as may be possible, with the Masters of the ships which answer his call for assistance, has the right to requisition such one or more of those ships as he considers best able to render assistance, and it shall be the duty of the Master or Masters of the ship or ships requisitioned to comply with the requisition by continuing to proceed with all speed to the assistance of persons in distress.
- (c) The Master of a ship shall be released from the obligation imposed by paragraph (a) of this Regulation when he learns that one or more ships other than his own have been requisitioned and are complying with the requisition.
- (d) The Master of a ship shall be released from the obligation imposed by paragraph (a) of this Regulation, and, if his ship has been requisitioned, from the obligation imposed by paragraph (b) of this Regulation, if he is informed by the persons in distress or by the Master of another ship which has reached such persons that assistance is no longer necessary.
- (e) The provisions of this Regulation do not prejudice the International Convention for the unification of certain rules with regard to Assistance and Salvage at Sea, signed at Brussels on 23 September 1910, particularly the obligation to render assistance imposed by Article 11 of that Convention.

U.S. IMPLEMENTATION OF THE GMDSS: The Federal Communications Commission (FCC) adopted the GMDSS requirements of the SOLAS Convention on 16 January 1992. (The GMDSS revisions to the Radio Regulations were developed by the International Maritime Organization (IMO) and ITU, and adopted by the ITU in 1987. The IMO adopted GMDSS requirements to the 1974 SOLAS Convention in 1988.) GMDSS requirements apply to the following U.S. vessels on international voyages or on the open sea:

- Cargo ships of 300 gross tons and over.
  - Ships carrying more than 12 passengers.
- Compliance will be required according to the following schedule:
- 1 February 1992 - Voluntary compliance by any ships.
  - All ships constructed after 1 February 1992 must carry a radar transponder and two-way VHF radiotelephone for survival craft.
  - 1 August 1993 - Applicable ships must have satellite EPIRB and NAVTEX.

- All ships constructed before 1 February 1992 to carry a radar transponder and two-way VHF radiotelephone for survival craft by 1 February 1995.
- 1 February 1995 - Newly constructed applicable ships must be GMDSS-equipped.
- All applicable ships to carry 9GHz radar by 1 February 1995.
- 1 February 1999 - All applicable ships must be GMDSS-equipped.

The FCC has exempted GMDSS-equipped U.S. ships from the Communications Act of 1934 requirements to carry (and provide operators for) Morse telegraphy equipment. This exemption is effective once the FCC, or its designee, has determined and certified that the vessel has GMDSS equipment installed and in good working condition. This exemption was mandated by the Telecommunications Act of 1996.

FCC rules applicable to the GMDSS include the following:

- Required equipment must be inspected once every 12 months.
- Ships must carry at least two persons with GMDSS Radio Operators licenses, designated as primary and backup(s), to act as dedicated radio operator in case of distress and carry out normal communications watch routines (including selection of HF DSC channels, reception of MSI, and entering ship's position in DSC equipment every 4 hours).
- At-sea maintenance, if employed (the alternatives being system redundancy or shore maintenance), must be provided by licensed GMDSS radio maintainers.
- Ships operating in Sea Area A3 (beyond NAVTEX coverage: see sec. 400H) must carry equipment capable of receiving MSI via Inmarsat Enhanced Group Calling (EGC) (SafetyNET).
- GMDSS equipment must be approved by the FCC and carry labels indicating compliance.
- Inmarsat antennas should be installed so as to minimize masking.
- A dedicated, non-scanning radio installation capable of maintaining a continuous DSC watch on VHF 156.525 MHz (Ch. 70) must be installed.

These changes are found in Parts 13 and 80 of Title 47 of the Code of Federal Regulations.

**INFORMATION REQUIRED CONCERNING NAVIGATIONAL DANGERS AND CYCLONES:** Vessels encountering imminent dangers to navigation or cyclones should notify all ships in the vicinity and the nearest coast station, using the safety signal. The following information should be provided for navigational dangers:

- The kind of ice, derelict or danger observed.
  - The position of the danger when last observed.
  - The time and date the observation was made.
- The following information should be provided for hurricanes in the Atlantic and eastern Pacific, typhoons in the western Pacific, cyclones in the Indian Ocean, and storms of a similar nature in other regions:
- A statement that a cyclone has been encountered, transmitted whenever the Master has good reason to believe that a cyclone exists in his vicinity.

## **DISTRESS, EMERGENCY, AND SAFETY TRAFFIC**

- Time, date, and position of ship when the observation was taken.
- As much of the following information as possible should be included in the message:
  - Barometric pressure.
  - Barometric tendency during the past 3 hours.
  - True wind direction and force.
  - Sea state (smooth, moderate, rough, high).
  - Swell (slight, moderate, heavy), with direction and period.
  - Course and speed of ship.

When a Master has reported a dangerous cyclone, it is desirable that subsequent observations be made and transmitted hourly, if possible, but in any case at intervals of not more than 3 hours, so long as the ship remains under the influence of the cyclone.

For winds of Force 10 or above on the Beaufort Scale for which no storm warning has been received (storms other than the cyclones referred to above) a message should be sent containing similar information to that listed above but excluding details concerning sea and swell.

For sub-freezing air temperatures associated with gale force winds, causing severe ice accretion on superstructures, send a message including:

- Time and date.
- Air temperature.
- Sea temperature.
- Wind direction and force.

### **400C. Reporting Navigational Safety Information to Shore Establishments**

Masters should pass navigational safety information to cognizant shore establishments by radio. This information may include, but is not limited to, the following:

- Ice.
- Derelicts, mines, or other floating dangers.
- Casualties to lights, buoys, and other navigational aids.
- The newly discovered presence of wrecks, rocks, shoals, reefs, etc.
- Malfunction of radio navigational aids.
- Hostile action or potential hostile action which may constitute a hazard to shipping.

**MESSAGES ADDRESSED TO THE U.S. COAST GUARD:** In the waters of the United States and its possessions, defects noted in aids to navigation should be addressed to COAST GUARD and transmitted direct to a U.S. government coast station for relay to the Commander of the nearest Coast Guard District.

Merchant ships should send messages about defects in aids to navigation through commercial facilities only when they are unable to contact a government coast station. Charges for these messages will be paid by the Coast Guard.

Vessels reporting distress, potential distress, groundings, hazards to navigation, medicos, failures of navigational aids, etc. to the Coast Guard, should include the following information in their initial report to expedite action and reduce the need for additional message traffic:

- Particulars regarding the reporting vessel: name, position, course, speed, destination, and estimated time of arrival.
- Particulars concerning the vessel or object reported: position, name, color, size, shape, and other descriptive data.
- Particulars concerning the case: nature of the case, conditions, and action taken, if any.

**MESSAGES ADDRESSED TO NGA (INFORMATION CONCERNING OTHER THAN U.S. WATERS):** Messages describing dangers on the high seas or in foreign waters should be addressed to NGA NAVSAFETY BETHESDA MD, which may decide to issue a safety broadcast. Whenever possible, messages should be transmitted via the nearest government radio station. If that is impractical, a commercial radio station may be used. Navigational warning messages to the U.S. government should always be sent through U.S. radio stations, government or commercial, but never through foreign stations.

Although any coast station in the mobile service will handle without charge messages relative to dangers to navigation or defects in aids to navigation, it is requested that, where practicable, ships address their messages to NGA and send them through the nearest U.S. station. Ship to shore Coast Guard radio stations are available for long-range communications. The AMVER Bulletin should be consulted for the latest changes to the communications network.

Warning information may also be reported directly to the NGA NAVSAFETY Radio Broadcast Watch Desk by the following methods:

- Telephone: (1) 301-227-3147.
- Fax: (1) 301-227-3731.
- E-mail: [navsafety@nga.mil](mailto:navsafety@nga.mil).

### **400D. Assistance by SAR Aircraft and Helicopters**

SAR aircraft may drop rescue equipment to ships in distress. This may include equipment containers connected in series by a buoyant line. The following may be dropped:

- Individual life rafts or pairs linked by a buoyant line.
- Buoyant radiobeacons and/or transceivers.
- Dye and smoke markers and flame floats.
- Parachute flares for illumination.
- Salvage pumps.

A helicopter may be used to supply equipment and/or evacuate persons. In such cases the following information will be of value:

- An orange smoke signal, signal lamp, or heliograph can be used to attract the attention of the helicopter.
- A clear stretch of deck should be made available as a pickup area, if possible, marked out with a large letter H in white. During the night the ship should be illuminated as brightly as possible, particularly any obstructions (masts, funnels, etc.). Care should be taken that illumination will not blind the helicopter pilot.
- The helicopter will approach from abaft the beam and come to a hover over the cleared area.

## **DISTRESS, EMERGENCY, AND SAFETY TRAFFIC**

- The ship should, when possible, maintain a constant speed through the water and keep the wind 30° on the port bow. If these conditions are met, the helicopter can hover and use its hoist in the cleared area. If a vessel is on fire or making smoke it is an advantage to have the wind 30° on the bow. The above procedure may be modified on instructions from the pilot.
- An indication of wind direction is useful. Pennants, flags, or a small amount of smoke from the galley funnel may be helpful.
- The length of the helicopter's winch cable is about 15 meters (50 feet) minimum.
- The lifting device on the end of the winch cable should never be secured to any part of the ship or become entangled in the rigging or fixtures. Ships' personnel should not attempt to grasp the lifting device unless requested to do so by the helicopter. In this case, a metal part of the lifting device should first be allowed to touch the deck in order to avoid possible shock due to static electricity.
- If the above conditions cannot be met, the helicopter may be able to lift a person from a boat or life raft secured on a long painter. Cases have occurred of life rafts being overturned by the downdraft from a helicopter. It is advisable for all persons in a raft to remain in the center of the raft until they are about to be lifted.
- In cases of injured persons a special stretcher may be lowered by the helicopter. The stretcher should be unhooked while the casualty is being strapped in.

### **400E. Reports of Hostile Activities**

SHIP HOSTILE ACTION REPORT (SHAR): NGA has established SHAR procedures to disseminate information within the U.S. Government on hostile or potentially hostile actions against U.S. merchant ships. Shipmasters should send a SHAR message to NGA by whatever means available immediately after they have encountered hostile actions or become aware of potential hostile actions which may constitute danger to U.S. shipping.

The text of a SHAR message should include the acronym SHAR, the location or position of the incident, a brief description of the situation, the Inmarsat identity of the ship transmitting the SHAR, the Inmarsat Ocean Region guarded, and the call sign of the coast radio station being guarded, if any. An example of the procedure vessels can use to send a SHAR message to NGA via either Inmarsat-A or -B telex follows on pg. 4-16.

If circumstances are such that only minimum essential data can be transmitted, a second SHAR message should be sent as soon afterward as possible containing amplifying information, such as:

- Latitude, longitude, course, and speed.
- Bearing and distance from nearest geographic point.
- Description of event.
- Next port of call and ETA.
- Date and time last message sent regarding this incident.

SHAR messages can be transmitted to NGA via Inmarsat-A, -B, or -C telex:

NGA NAVSAFETY BETHESDA MD  
TELEX 898334

SHAR delivery may also be made by the following methods:

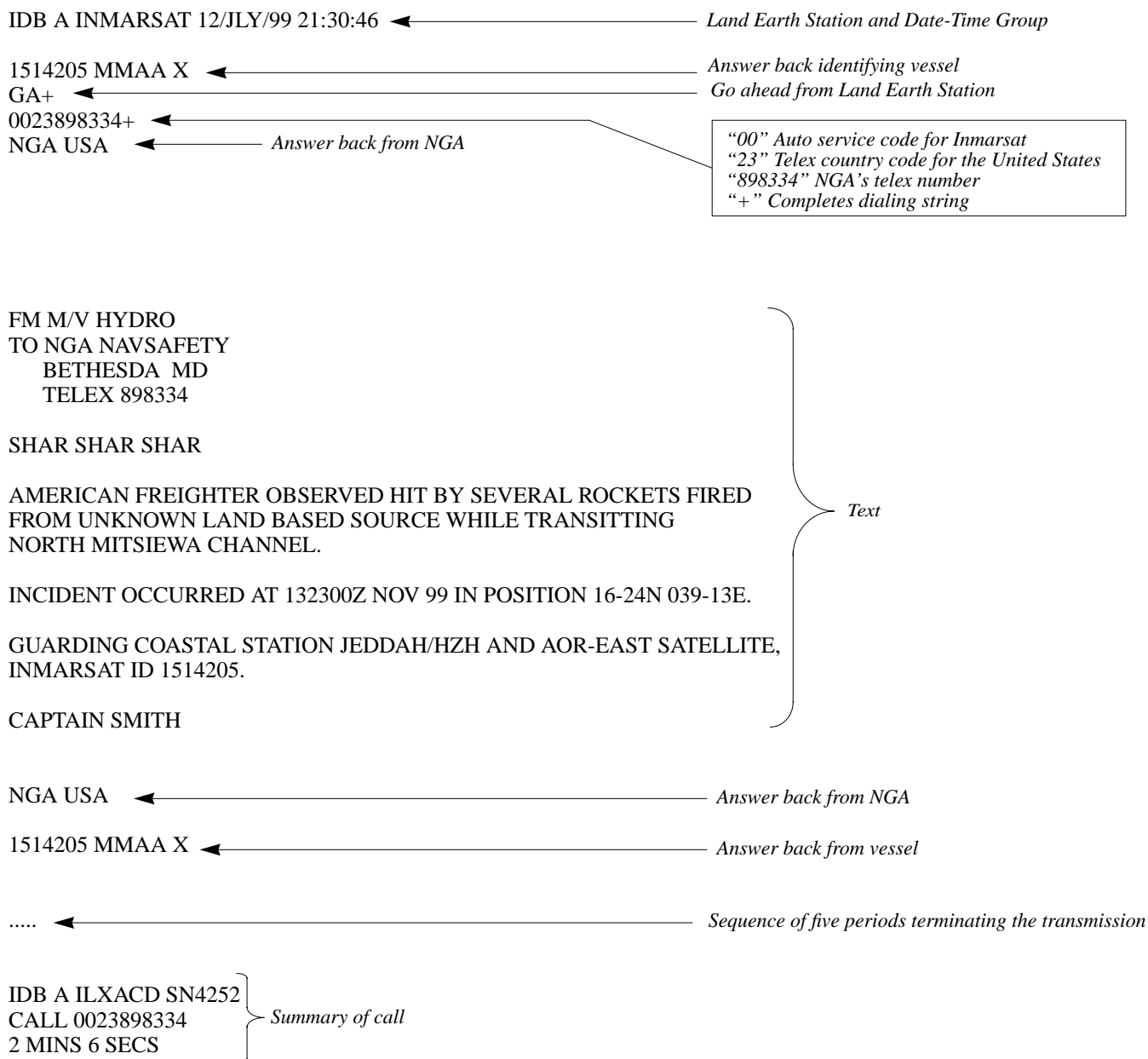
- NBDP via telex.
- Telephone: (1) 301-227-3147.
- E-mail: [navsafety@nga.mil](mailto:navsafety@nga.mil).

Rapid dissemination of a SHAR is vital so that a radio broadcast warning, if needed, may be promulgated as soon as possible. When a SHAR is received by NGA, it is reviewed and (if appropriate) immediately sent to the Department of State and other relevant government authorities and officials for action. A SHAR can result in the promulgation of NAVAREAs, HYDROLANTs, HYDROPACs, and SPECIAL WARNINGS (See chap. 3.) to help ensure the safety of any other U.S. flag vessels in the affected area.

A SHAR is not a distress message. U.S. flag and effective U.S. controlled (EUSC) vessels, under attack or threat of attack, may request direct assistance from the U.S. Navy following the procedures in Part II of this chapter.

## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

### Procedure to Send a SHAR via Inmarsat-A or Inmarsat-B Telex



## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

**PIRACY ATTACK ALERT:** The international format for a piracy attack alert includes the following:

- The distressed vessel's name and call sign (and Inmarsat ID, if applicable, with ocean region code).
- Distress signal MAYDAY or SOS (MAYDAY need not be included in the Inmarsat system when distress priority (3) is used).
- The text heading PIRACY ALERT.
- Position and time.
- Nature of event.

This message should be sent to the nearest RCC, national or regional piracy center, or nearest coast radio station.

A follow-up message should be sent when time permits, including the following:

- Reference to the initial Piracy Alert.
- Details of the incident.
- Last observed movements of the pirate vessel.
- Assistance required.
- Preferred methods for future communication.
- Date and time of report.

A regional Piracy Reporting Center in Kuala Lumpur, Malaysia, has been established by the International Maritime Bureau (IMB) in the Southeast Asia Region. The center maintains watch 24-hours a day and, in close collaboration with law enforcement, acts on reports of suspicious shipping movements, piracy, and armed robbery at sea anywhere in the world. Services are provided free of charge to all vessels irrespective of ownership or flag.

Specific tasks of the Piracy Reporting Center are to:

- Report piracy incidents and armed robbery at sea to law enforcement agencies.
- Supply investigating teams that respond to acts of piracy and collect evidence for law enforcement agencies.
- Locate vessels that have been seized by pirates and recover stolen cargoes.
- Help bring pirates to justice.
- Assist owners and crews of ships that have been attacked.
- Collate information on piracy in all parts of the world.

The center broadcasts daily status bulletins by Inmarsat-C (SafetyNET), reporting acts of piracy against shipping in East Africa, the Indian subcontinent, Southeast Asia and the Far East regions.

The IMB also publishes a weekly piracy report, which is a summary of the Piracy Reporting Center's daily status bulletins. Each week's report is posted on Tuesday and may be accessed through the IMB Website at:

[http://www.iccwbo.org/ccs/menu\\_imb\\_bureau.asp](http://www.iccwbo.org/ccs/menu_imb_bureau.asp)

The center may be contacted by:

- Telephone: 60-3-2078-5763.
- Fax: 60-3-2078-5769.
- Telex: MA 31880 IMBPCI.
- E-mail: [imbkl@icc-ccs.org.uk](mailto:imbkl@icc-ccs.org.uk).
- 24 hour Anti Piracy Helpline:
- Telephone: 60-3-2031-0014.

**ANTI-SHIPPING ACTIVITY MESSAGES (ASAM) REPORTING:** Piracy and other attacks against merchant

shipping continue to be a worldwide problem. Information regarding these incidents often takes over a month to reach U.S. Government authorities. Delays in reporting these incidents can result in an ineffective response by the appropriate Government agency and, more importantly, will undermine the benefit to other mariners who may be transiting the affected geographic area.

At the request of a U.S. Government interagency working group on piracy and maritime terrorism, the Defense Mapping Agency (DMA) [now the National Geospatial-Intelligence Agency (NGA)] developed, in 1985, a system to offer the maritime community the most effective means of filing reports about attacks on shipping, storing the data on a computer and disseminating data to mariners and Government entities via telecommunications links.

The NGA system is the Anti-Shipping Activity Messages (ASAM) database accessed through the Maritime Safety Information Website. This system allows any user to send and record an ASAM or query the database for reported incidents by date, geographic subregion, victim's name or reference number.

All piracy, terrorism, attacks, hostile actions, harassments and threats while at sea, anchor or in port, should be reported. The primary means of reporting is through NGA's ASAM system, with acceptable secondary methods by telex/fax, telephone, and mail. An ASAM does not need to be filed if a Ship Hostile Action Report (SHAR) has been issued—one will be generated following a SHAR.

This centralized database capability has been designed to be a major step toward monitoring the escalating problem of maritime crimes against life and property. The central location for filing reports of attacks against shipping is the first step in supporting governmental responses, as well as warning the maritime community that they should avoid (or approach with caution) certain geographic areas.

Many ASAM reports are filed each year; however, the number of reports as compared to worldwide incidents is quite low. The long range goal of the ASAM system is to assist Government officials in the deterrence of such activities. Active participation by mariners is vital to the success of future deterrence. The U.S. Maritime Administration (MARAD) and NGA strongly encourage all mariners to participate and promptly report all incidents, whether against their vessel or observed against other vessels.

For further information pertaining to the ASAM system contact:

MARITIME DIVISION  
NSS STAFF  
ST D 44  
4600 SANGAMORE ROAD  
BETHESDA MD 20816-5003

Telephone: (1) 301-227-3147.  
Fax: (1) 301-227-4211.  
E-mail: [webmaster\\_nss@nga.mil](mailto:webmaster_nss@nga.mil).

## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

**ANTI-PIRACY MEASURES:** Merchant ships continue to be attacked by pirates in port and underway on the west coast of Africa, in and near the Strait of Malacca, in the South and East China Seas, in the Caribbean and in Brazilian and Ecuadorian waters. Pirates usually take money, radios, cameras and other property that is portable, valuable and easily sold. In some cases cargo has been raided. In this section “piracy” means all kinds of violent crimes against ships and small craft, including incidents in ports and in territorial and international waters, except incidents that are clearly political terrorism.

The following is a short checklist of prudent measures that ship’s officers should consider when operating in regions where piracy has been reported:

– **BE VIGILANT. ANTICIPATE TROUBLE**

- Provide a security general alarm signal and security Station Bill to alert all crew members. Assign a ship’s physical security officer.
- Anti-piracy measures should be included in the ship’s security plan. These measures should be designed to keep boarders off the ship. Repelling armed pirates already on deck can be dangerous.
- Piracy countermeasures should be exercised during regular emergency drills when in or approaching dangerous waters.
- Have water hoses under pressure with nozzles ready at likely boarding places when at sea and in port.
- Illuminate sides, bows and quarters while navigating in threat areas and in dangerous ports.
- Restrict access to vessel, close all ports, strong back doors, and secure spaces.

In port:

- Ensure gangway watch can contact shipboard support if needed, preferably by hand-held radios.
- Ensure gangway watch can contact local security forces for assistance, if available.
- Maintain roving patrol on deck in port and at anchor, and ensure that patrol and gangway watch are in contact.
- Use rat guards on all mooring lines and illuminate the lines.
- Use covers on chain hawse and keep wash-down water running.
- Keep bumboats away and vendors off the ship.

Underway:

- Keep good radar and visual lookout, including lookout aft.
- Have searchlights available to illuminate suspected boarding parties.

– Have signaling equipment, including emergency rockets, rocket pistols, and EPIRBs, available for immediate use.

When suspected boarders are detected:

- Sound the general alarm.
- Establish VHF contact with shore stations and other ships in the vicinity.
- Increase speed and head into seas if practicable. Take evasive action by working rudder hard right and left if navigation permits.
- Fire warning rockets.
- Switch on outside lighting.
- Use searchlights to illuminate and dazzle suspects.

– **CONTINUE TO MAINTAIN GOOD ALL-AROUND WATCH.**

After pirates have boarded:

- Barricade engine room and bridge, if practicable.
- Barricade the crew in secure areas, if practicable.
- Report the situation by radio and call for help, if available. Use Emergency Call-up Procedures in Chapter 4.
- **DON’T BE HEROIC** if the boarders are armed.

**MARAD ADVISORIES:** The U.S. Maritime Administration utilizes MARAD Advisories to rapidly disseminate information on maritime danger, safety, government policy, and other timely matters pertaining to U.S. flag and U.S. owned vessel operations. MARAD Advisories are issued by the Office of Ship Operations to vessel Masters, operators, and other U.S. maritime interests via message. MARAD Advisories are also published in NGA’s Notice to Mariners and maintained on NGA’s Maritime Safety Information Center Website.

MARAD has established an internet Website at:

<http://www.marad.dot.gov>

to disseminate the latest information pertaining to the U.S. maritime industry. The following information is available:

- Ready Reserve Force news.
- Treasury Department’s Office of Foreign Assets Control.
- Maritime Security Act/Program.
- MARAD Advisories.
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MARITIME ADMINISTRATION  
OFFICE OF SHIP OPERATIONS (MAR-613)  
400 SEVENTH STREET SW  
WASHINGTON DC 20590

Telephone: (1) 202-366-5735.

Fax: (1) 202-366-3954.

E-mail: [opcenter1@marad.dot.gov](mailto:opcenter1@marad.dot.gov).

### **400F. Emergency Position Indicating Radio Beacons (EPIRBs)**

Emergency position indicating radio beacons (EPIRBs), devices which cost from \$200 to \$1500, are designed to save lives by alerting rescue authorities and indicating distress location. EPIRB types are described as follows:

- **Class A (121.5/243 MHz):** Float-free, automatically activating, detectable by aircraft and satellite. Coverage limited (see chart). An alert from this device to a RCC may be delayed 4-6 or more hours. No longer recommended.



## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

- Class B (121.5/243 MHz): Manually activated version of Class A. No longer recommended.
- Class S (121.5/243 MHz): Similar to Class B, except that it floats, or is an integral part of a survival craft. No longer recommended.
- Category I (406/121.5 MHz): Float-free, automatically activated EPIRB. Detectable by satellite anywhere in the world. Recognized by GMDSS.
- Category II (406/121.5 MHz): Similar to Category I, except manually activated. Some models are also water activated.
- Inmarsat-E (1646 MHz): Float-free, automatically activated EPIRB. Detectable by Inmarsat geostationary satellite. Recognized by GMDSS.

121.5/243 MHz EPIRBs (Class A, B, S): These are the most common and least expensive type of EPIRB, designed to be detected by overflying commercial or military aircraft. Satellites were designed to detect these EPIRBs but are limited for the following reasons:

- Satellite detection range is limited for these EPIRBs (satellites must be within line of sight of both the EPIRB and a ground terminal for detection to occur) (see chart).
- Frequency congestion in the band used by these devices cause a high satellite false alert rate (99.8%); consequently, confirmation is required before SAR forces can be deployed.
- EPIRBs manufactured before October 1989 may have design or construction problems (i.e., some models will leak and cease operating when immersed in water) or may not be detectable by satellite. Such EPIRBs may no longer be sold.
- Location ambiguities and frequency congestion in this band require two or more satellite passes to determine if the signal is from an EPIRB and to determine the location of the EPIRB, delaying rescue by an average of 4 to 6 hours. In some cases, a rescue can be delayed as long as 12 hours.
- Cospas-Sarsat is expected to cease detecting alerts on 121.5 MHz.

Class A, B, and S (121.5 MHz) EPIRBs have not been manufactured, imported, or sold in the U.S. since 1 February 2003; use of these EPIRBs in the U. S. shall be prohibited after 31 December 2006.

NOTE: The International Cospas-Sarsat Program has announced plans to terminate satellite processing of distress signals from 121.5/243 MHz emergency beacons on 1 February 2009. Mariners, aviators and other users of emergency beacons will need to switch to those operating at 406 MHz in order to be detected by satellites. The termination of 121.5/243 MHz processing is planned far enough in advance to allow users adequate time for the transition to the 406 MHz beacon.

The decision to terminate 121.5/243MHz satellite alerting services was made in response to guidance from the International Maritime Organization (IMO) and the International Civil Aviation Organization (ICAO). These

two agencies of the United Nations are responsible for regulating the safety of ships and aircraft on international transits and handle international standards and plans for maritime and aeronautical search and rescue. In addition, problems within this frequency band inundate search and rescue authorities with false alerts, adversely impacting the effectiveness of lifesaving services. Although 406 MHz beacons are more costly, they provide search and rescue agencies with more reliable and complete information to do their job more efficiently and effectively.

Individuals who plan on buying a new distress beacon need to be aware and take the Cospas-Sarsat decision into account.

406 MHz EPIRBs (Category I, II): The 406 MHz EPIRB was designed to operate with satellites. The signal frequency, 406 MHz, has been designated internationally for use only for distress; other communications and interference are not allowed on this frequency. Its signal allows a satellite local user terminal (LUT) to accurately locate the EPIRB (much more accurately than 121.5/243 MHz devices) and identify the vessel (by matching the unique identification code transmitted by the beacon to a registration database) anywhere in the world (there is no range limitation). These devices are detectable not only by Cospas-Sarsat satellites which are polar orbiting, but also by geostationary GOES weather satellites. EPIRBs detected by the GEOSAR system, consisting of GOES or other geostationary satellites, provide rescue authorities an instant alert, but without location information unless the EPIRB is equipped with an integral GPS receiver. EPIRBs detected by Cospas-Sarsat (i.e., TIROS N) satellites provide rescue authorities location of distress, but location and sometimes alerting may be delayed as much as an hour or two. These EPIRBs also include a 121.5 MHz homing signal, allowing aircraft and rescue craft to quickly find the vessel in distress. These are the only type of EPIRBs which must be certified by Coast Guard approved independent laboratories before they can be sold in the United States.

An automatically activated, float free version of this EPIRB is designated for use in the GMDSS and has been required on SOLAS vessels (cargo ships over 300 tons and passenger ships on international voyages) since 1 August 1993. Coast Guard regulations require U.S. commercial fishing vessels to carry this device. The U.S. Coast Guard Navigation and Vessel Inspection Circular (NVIC) No. 3-99 provides a complete summary of EPIRB equipment requirements for U.S. flag vessels, including those vessels operating on the Great Lakes. This circular is available from the U.S. Coast Guard Homepage at:

<http://www.uscg.mil/hq/g-m/nvic/>

A new type of 406 MHz EPIRB, having an integral GPS navigation receiver, became available in 1998. This EPIRB provides accurate location, as well as identification information, to rescue authorities immediately upon activation through both geostationary (GEOSAR) and polar orbiting satellites.

## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

### COMPARISON OF THE 406 MHz AND 121.5 MHz DISTRESS BEACONS

406 MHz Beacons	121.5 MHz Beacons
<b>Coverage:</b>	
–Global.	–Ground station dependent; ground stations have an effective radius of about 1800 nm (2300 km). Both ground station and beacon must be in satellite footprint. Current coverage is about two-thirds of the world.
<b>False Alerts:</b>	
<p>–All alerts come from beacons. Satellite beacon transmissions are digital, coded signals. Satellites process only encoded data, other signals are rejected.</p> <p>–About 1 in 12 alerts are actual distress.</p> <p>–Beacon-unique coding/registration allows rapid incident corroboration. Registration mandatory since 1994. 90% beacons registered. About 70% of false alerts are resolved by a phone or radio call to registration POCs prior to launching SAR assets.</p>	<p>–Only about 1 in 5 alerts come from beacons. Satellites can't discern beacon signals from many non-beacon sources. Beacons transmit anonymously with no unique identifier.</p> <p>–Fewer than 2 in 1000 alerts and 2 in 100 composite alerts are actual distress.</p> <p>–Since 121.5 MHz beacons transmit anonymously, the only way to ascertain the situation is to dispatch resources to investigate--a costly disadvantage.</p>
<b>Alerting:</b>	
<p>–First alert warrants launch of SAR assets. Earlier launches puts assets on scene sooner--average 3 hrs saved in maritime, 6 hrs in inland.</p> <p>–Average initial detection/alerting by orbiting satellites is about 45 minutes.</p> <p>–Average subsequent satellite passes every 60 minutes.</p> <p>–Vessel/aircraft ID, point of contact information provided with alerts allows rapid verification or stand-down.</p> <p>–Allows false alert follow-up to continuously improve system integrity/reliability.</p> <p>–Near instantaneous detection by geostationary satellites. System provides world-wide coverage.</p>	<p>–High false alert rate makes first-alert launch unfeasible. Absent independent distress information means RCCs must wait for additional alert information.</p> <p>–Same as 406 MHz.</p> <p>–Same as 406 MHz.</p> <p>–Alerts are anonymous. 121.5 MHz analog technology not capable of transmitting data.</p> <p>–No false alert follow-up capability.</p> <p>–No GEO detection capability means no instantaneous detection.</p>
<b>Position Information:</b>	
<p>–1-3 nm (2-5 km) accuracy on average. Position calculated by Doppler shift analysis.</p> <p>–Less than 100 yard accuracy with GPS-equipped beacons. GPS position processed with initial alert. Major beacon enhancement.</p>	<p>–12-15 nm (15-25 km) accuracy on average. Position calculated by Doppler shift analysis.</p> <p>–No GPS capability.</p>
<b>Locating the Target:</b>	
<p>–Superior alert (non-GPS) position accuracy limits initial search area to about 25 sq. nm (65 sq. km).</p> <p>–GPS-equipped beacons reduce search area to a significantly smaller area.</p> <p>–121.5 MHz homing signal facilitates target location by radio detection finder equipped search units.</p>	<p>–Initial position uncertainty results in 500 sq. nm (800 sq. km) search area on average.</p> <p>–No GPS capability.</p> <p>–Same as 406 MHz.</p>
<b>Power Output:</b>	
–5.0 Watts (strong power output).	–0.1 Watt (weaker power output)--hard for satellites to detect.
<b>Cost:</b>	
<p>–Average cost is \$1000 (GPS-equipped EPIRB).</p> <p>–Average cost is \$500 (Personal Locator Beacon).</p> <p>–Average cost is \$1500 - \$3000 (ELT).</p>	<p>–Average cost is \$200 - \$400 (EPIRB).</p> <p>–Average cost is \$600 - \$1200 (ELT).</p> <p>–121.5 MHz beacons are being phased out.</p>

## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

Mariners should be aware of the differences between capabilities of 121.5/243 MHz and 406/121.5 MHz EPIRBs, as they have implications for alerting and locating of distress sites, as well as response by SAR forces. The advantages of 406/121.5 MHz devices are substantial, and are further enhanced by EPIRB-transmitted registration data on the carrying vessel. Owners of 406/121.5 MHz EPIRBs furnish registration information on their vessel, onboard survival gear, and emergency points of contact ashore, all of which greatly enhance both timely and tailored SAR response. The database for U.S. vessels is maintained by the National Oceanic and Atmospheric Administration (NOAA), and is accessed worldwide by SAR authorities to facilitate SAR response.

**BEACON REGISTRATION:** FCC regulations require that all 406 MHz EPIRBs carried on U.S. vessels be registered with NOAA. The U.S. Coast Guard is enforcing the FCC registration rule. FCC fines, of up to \$10,000, may be incurred for false activation of an unregistered EPIRB (e.g., as a hoax, or through gross negligence, carelessness, or improper storage and handling). The EPIRB must be updated with NOAA upon the change of vessel or EPIRB ownership, transfer of EPIRB to another vessel, or any other change in registration information, such as the owner's address or primary telephone number.

NOAA's National Beacon Registration Database is now available online. EPIRB owners can register and update their beacons directly via the internet at:

<http://www.beaconregistration.noaa.gov/>

Owner's of previously registered EPIRBs can access registration information with the unique beacon ID (i.e., 15 character hexadecimal Beacon Identification Code).

Registration forms and inquiries may also be obtained from:

NOAA SRSAT  
E/SP3, RM 3320, FB-4  
5200 AUTH ROAD  
SUITLAND MD 20746-4304

- Telephone: (1) 888-212-SAVE (toll free), (1) 301-457-5678, or (1) 301-457-5430.
- Fax: (1) 301-568-8649.
- E-mail: [osdpd.dsd.reception@noaa.gov](mailto:osdpd.dsd.reception@noaa.gov).

**TESTING 121.5/243 MHz EPIRBs:** The U.S. Coast Guard urges EPIRB owners to periodically check for water tightness, battery expiration date, and signal presence. FCC rules allow Class A, B, and S EPIRBs to be turned on briefly (for three audio sweeps, or 1 second only) during the first 5 minutes of any hour. Signal presence can be detected by an FM radio tuned to 99.5 MHz, or an AM radio tuned to any vacant frequency and located close to an EPIRB.

**MONTHLY EPIRB INSPECTION PROCEDURES:** For all compulsory vessels that are required to carry 406 MHz EPIRBs in U.S. waters (that is, all vessels over 300 gross tons, all commercial fishing vessels regardless of tonnage operating in waters greater than 3 nautical miles offshore, and all inspected vessels engaged in transporting 6 or more

persons for hire regardless of tonnage) mandatory testing of a vessel's 406 MHz EPIRB is required on a monthly basis.

The following information has been developed by NOAA and the U.S. Coast Guard to provide EPIRB owners and maintainers a generic list of recommended procedures for conducting monthly EPIRB inspections. These inspection procedures are intended to provide general guidance and do not supersede the recommended procedures provided by the International Maritime Organization (IMO) or by the EPIRB manufacturer. All owners and maintainers should follow the inspection and self-testing procedures of their EPIRB manufacturer accordingly. Throughout the inspection and testing process, great care must be taken to avoid the transmission of a false distress alert.

- **Inspection of the EPIRB housing:** The first test of an EPIRB should be to inspect the unit housing the EPIRB. 406 MHz EPIRBs should be fitted in an unobstructed "float free" mounting and positioned away from any overhead obstructions to reduce the risk of the EPIRB becoming trapped when released. In such a mounting the EPIRB should be held in place by a Hydrostatic Release Unit (HRU), an Automatic Release Mechanism (ARM), or a manual release bracket. In the case of the HRU, it is designed to sense the increasing water pressure if a vessel sinks and at a predetermined depth (usually 3-5 meters) the HRU releases the mount, allowing the EPIRB to float to the surface. If the EPIRB is a Category I beacon, the mounting unit will allow the EPIRB to switch itself on as it is released, so it will operate automatically if the vessel sinks. Category II EPIRBs differ in that they are not released automatically via the HRU; they activate manually or through immersion in water.
- **Expiration date:** If the EPIRB is retained in its mount or casing by an HRU, then the expiration date or service date label on the HRU should be noted and clearly visible. These units must be replaced every 2 years including any associated plastic bolts, rods, springs, and/or spacing washers. The HRU should be free of any signs of corrosion, cracking, water ingress, etc. Any damage should be repaired in accordance with the manufacturer's procedures, or the unit replaced.
- **EPIRB lanyard:** Presence of a firmly attached lanyard in good condition should also be verified. The lanyard should be neatly stowed, and must not be tied to the vessel or the mounting bracket.
- **Checking for physical damage:** The EPIRB should be examined thoroughly for any physical damage. If there appears to be any damage, corrosion, cracking, water ingress, etc., the EPIRB should be replaced with a backup immediately. In turn, this replacement EPIRB should meet each of the inspection and testing criteria listed here as well.
- **Proper registration:** An inspection of the EPIRB registration decal from NOAA should also be completed for all U.S.A.-coded EPIRBs. The registration decal should be properly placed on the EPIRB and clearly visible for U.S. Coast Guard inspectors. If there appears

## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

to be any damage to the decal, NOAA should be notified immediately. U.S. law requires that all 406 MHz EPIRBs must be properly registered with NOAA. Every two years NOAA will seek an update of the registration information to ensure accuracy. However, if at anytime the registration information does change (such as a new phone number, new address, new emergency contact, etc.) NOAA must be informed immediately.

- EPIRB battery: The expiration date of the EPIRB's battery should also be inspected. This is usually given on the EPIRB manufacturer's label or on another plate affixed to the EPIRB. Battery life for most EPIRBs is 5 years. The battery must be replaced on or before the expiration date or if the EPIRB has been used in an emergency regardless of the length of time. EPIRB batteries are designed to operate the beacon for a minimum of 48 hours and therefore must always be fully charged.
- Self-testing: After the EPIRB has been properly inspected, a self-test of the EPIRB can be conducted following the instructions provided by the EPIRB manufacturer. It is important that the manufacturer's instructions be followed to ensure that the EPIRB is working properly and to avoid an accidental activation. Most EPIRBs have a visible test switch that is usually spring loaded so it cannot be left on inadvertently and thus reduce the life of the battery. A light will indicate that the test circuits are operating correctly. Sometimes this light will also activate the strobe light. It is recommended that the self-test switch be held for no more than 2 flashes of the strobe light or no longer than 1 minute after the first self-test mode burst transmission. When operating a 406 MHz EPIRB self-test, the EPIRB is allowed to radiate a single burst which is specially coded so that it is ignored by the Cospas-Sarsat system. The EPIRB must never be tested by actual operation. If it is accidentally activated in the transmit mode, then it should be turned off at once and the false alert cancelled by calling the nearest U.S. Coast Guard Station and have them contact the nearest Rescue Coordination Center.
- Log-keeping: For compulsory vessels all EPIRB tests must be logged. Usually this is recorded in the GMDSS Station Log which requires compulsory vessels to conduct and record tests of the vessel's GMDSS system on a routine basis. The GMDSS Station Log is required under 47 CFR 80.409.

When used in an emergency, some EPIRBs must be floating in the water for their antenna to operate at peak efficiency. The EPIRB manufacturer's instructions will indicate if the EPIRB should be operating afloat or if it can be kept inside the liferaft. In either event, once the EPIRB is activated in a distress situation leave it switched on until you have been rescued or until the batteries are exhausted.

**ANNUAL TESTING OF EPIRBs:** The annual testing of 406 MHz satellite EPIRBs is required by SOLAS regulation IV/15.9. The IMO has issued MSC/Circ.1040 (dated 28 May 2002) which provides the following guidelines on annual testing of 406 MHz satellite EPIRBs:

The testing should be carried out using suitable test equipment capable of performing all the relevant

measurements required in these guidelines. All checks of electrical parameters should be performed in the self-test mode, if possible.

The examination of the installed 406 MHz satellite EPIRB should include:

- checking position and mounting for float-free operation;
- verifying the presence of a firmly attached lanyard in good condition; the lanyard should be neatly stowed, and must not be tied to the vessel or the mounting bracket;
- carrying out visual inspection for defects;
- carrying out the self-test routine;
- checking that the EPIRB identification (15 Hex ID and other required information) is clearly marked on the outside of the equipment;
- decoding the EPIRB 15 Hexadecimal Identification Digits (15 Hex ID) and other information from the transmitted signal, checking that the decoded information (15 Hex ID or MMSI/callsign data, as required) is identical to the identification marked on the beacon;
- checking registration through documentation or through the point of contact associated with that country code;
- checking the battery expiration date;
- checking the hydrostatic release and its expiration date, as appropriate;
- checking the emission in the 406 MHz band using the self-test mode or an appropriate device to avoid transmission of a distress call to the satellites;
- if possible, checking emission on the 121.5 MHz frequency using the self-test mode or an appropriate device to avoid activating the satellite system;
- checking that the EPIRB has been maintained by an approved shore-based maintenance provider at intervals required (i.e., not exceeding 12 months, see 47 CFR 80.1105(k));
- after the test, remounting the EPIRB in its bracket, checking that no transmission has been started; and
- verifying the presence of beacon operating instructions.

**INMARSAT-E EPIRBs:** Inmarsat-E EPIRBs operate on 1.6 GHz (L-band) and transmit a distress signal to Inmarsat geostationary satellites, which includes a registered identity similar to that of the 406 MHz EPIRB, and a location derived from a GPS navigational satellite receiver inside the EPIRB. Inmarsat-E EPIRBs may be detected anywhere in the world between 70°N and 70°S. Since geostationary satellites are used, alerts are transmitted almost instantly to a RCC associated with the Inmarsat Land Earth Station (LES) receiving the alert. The distress alert transmitted by an Inmarsat-E EPIRB is received by two LESs in each ocean region, giving 100 percent duplication for each ocean region in case of failures or outages associated with any of the LESs. Alerts received over the Inmarsat Atlantic Ocean Regions are routed to the Coast Guard Atlantic Area command center in Portsmouth, and alerts received over the Inmarsat Pacific Ocean Region are routed to the Coast Guard Pacific Area command center in Alameda. This type of EPIRB is designated for use in the GMDSS, but it is not sold in the United States or approved for use by U.S. flag vessels.

## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

NOTE: Inmarsat will withdraw its L-band EPIRB service (Inmarsat-E) on 1 December 2006.

**THE COSPAS-SARSAT SYSTEM:** Cospas-Sarsat (Cospas is a Russian acronym for “Space System for Search of Distress Vessels;” Sarsat signifies “Search and Rescue Satellite-Aided Tracking”) is an international satellite-based search and rescue system established by the U.S., Russia, Canada, and France to detect and locate emergency radiobeacons transmitting on the frequencies 121.5 and 406 MHz. Since its inception, the Cospas-Sarsat system has contributed to the saving of over 15,700 lives in approximately 4,500 SAR events.

The Cospas-Sarsat system provides distress and location data to RCCs for 121.5 MHz beacons, within the coverage area of Cospas-Sarsat ground stations (Local User Terminals - LUTs), and for 406 MHz beacons, activated anywhere in the world. The system is composed of:

- distress radiobeacons (EPIRBs for maritime use) which transmit signals during distress situations;
- instruments on board satellites in geostationary and low-altitude Earth orbits which detect the signals transmitted by distress radiobeacons;
- ground receiving stations, referred to as Local User Terminals (LUTs), which receive and process the satellite downlink signal to generate distress alerts; and
- Mission Control Centers (MCCs) which receive alerts produced by LUTs and forward them to RCCs, SAR Points of Contacts (SPOCs), or other MCCs.

The Cospas-Sarsat system includes two types of satellites:

- polar orbiting, or low-altitude Earth orbit (LEO), satellites which form the LEOSAR System;
- geostationary Earth orbit (GEO) satellites which form the GEOSAR System.

The 406 MHz LEOSAR System provides global non-continuous coverage using a limited number of polar orbiting satellites and 406 MHz beacons. The coverage is

not continuous because polar orbiting satellites can only view a portion of the earth at any given time. However, the satellite is able to store distress beacon information and continuously broadcast it until the satellite comes within view of a LEOLUT, thereby providing global coverage. Doppler processing techniques are used to calculate the position of the beacon. In the case of second generation 406 MHz beacons, the location information is acquired from global satellite navigation systems, through an internal or external navigation receiver, and encoded in the beacon message.

The 121.5 MHz LEOSAR System coverage is neither global nor continuous because the detection of the distress signal can only occur when the satellite simultaneously views the transmitting beacon and the ground receiving station. Doppler processing techniques are used to calculate the position of the beacon; however, the location accuracy of 121.5 MHz beacons is not as good as the accuracy achieved with 406 MHz beacons because of the relatively poorer frequency stability performance of these older generation beacons. Furthermore, a second satellite pass is normally required to resolve position ambiguity.

The 406 MHz GEOSAR System provides continuous coverage of all areas of the globe to about 75 °latitude. This system provides almost immediate alerting in the footprint of the GEOSAR satellite, however it has no independent location capability. To provide rescuers with position information, the beacon location must be either:

- acquired by the beacon through an internal or an external navigation receiver and encoded in the beacon message; or
- derived, with possible delays, from the LEOSAR system Doppler processing.

The USCG receives data from international sources via the USMCC. See the following table:

### LIST OF COSPAS-SARSAT MCCs AND LEOLUTs

(Extracted from ANNEX 10 of the IMO GMDSS Master Plan)

Country	MCC			LEOLUT		Associated RCC
	Location	Designator	Status	Location	Status	
Algeria	Algiers	ALMCC	Operational	Ouargla	Operational	RCC Algiers
Argentina	Ezeiza	ARMCC	Operational	Parana Rio Grande	Operational	MRCC Puerto Belgrano
Australia	Canberra	AUMCC	Operational	Albany Bundaberg	Operational	RCC Australia
Brazil	Brasilia	BRMCC	Operational	Brasilia Manaus Recife	Under development	Salvamar/Salvaero
Canada	Trenton	CMCC	Operational	Churchill Edmonton Goose Bay	Operational	

## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

### LIST OF COSPAS-SARSAT MCCs AND LEOLUTs

(Extracted from ANNEX 10 of the IMO GMDSS Master Plan)

Country	MCC			LEOLUT		Associated RCC
	Location	Designator	Status	Location	Status	
Chile	Santiago	CHMCC	Operational	Easter Island Punta Arenas Santiago	Operational	MRCC Chile
China	Beijing	CNMCC	Operational	Beijing	Operational	
France	Toulouse	FMCC	Operational	Toulouse	Operational	MRCC Gris Nez MRCC La Garde
Hong Kong	Hong Kong	HKMCC	Operational	Hong Kong	Operational	MRCC Hong Kong
India	Bangalore	INMCC	Operational	Bangalore Lucknow	Operational	
Indonesia	Jakarta	IDMCC	Operational	Jakarta	Operational	RCC I; Soekarta-Hatta Airport, Jakarta RCC II; Djuanda Airport, Suraybaya RCC III; Hasanudin Airport, Ujung Pandang RCC IV; Frans Karseifo Airport, Biak
Italy	Bari	ITMCC	Operational	Bari	Operational	MRCC Roma
ITDC <sup>1</sup>	Taipei	TAMCC	Operational	Chi-lung (Keelung)	Operational	
Japan	Tokyo	JAMCC	Operational	Yokohama	Operational	RCC Otaru RCC Shiogama RCC Yokohama RCC Nagoya RCC Kobe RCC Hiroshima RCC Kitakyushu RCC Maizuru RCC Niigata RCC Kagoshima RCC Naha
Republic of Korea	Taejon	KOMCC	Operational	Taejon	Operational	RCC Inchon RCC Kimpo
New Zealand	Canberra <sup>2</sup>	AUMCC	Operational	Wellington	Operational	RCC Lower Hutt
Nigeria	Abuja	NIMCC	Under development	Abuja	Under development	
Norway	Bodø	NMCC	Operational	Tromsø Spitzbergen	Operational	MRCC Bodø MRCC Stavanger
Pakistan	Lahore	PAMCC	Under development	Lahore	Operational	CAA Lahore MSA Karachi

## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

### LIST OF COSPAS-SARSAT MCCs AND LEOLUTs

(Extracted from ANNEX 10 of the IMO GMDSS Master Plan)

Country	MCC			LEOLUT		Associated RCC
	Location	Designator	Status	Location	Status	
Peru	Callao	PEMCC	Operational	Callao	Operational	MRCC Callao
Russian Federation	Moscow	CMC	Operational	Arkhangelsk	Operational	
				Moscow <sup>3</sup>	Not operational	
				Nakhodka	Operational	
Saudi Arabia	Jiddah	SAMCC	Operational	Jiddah	Operational	RCC Jiddah
Singapore	Singapore	SIMCC	Operational	Singapore	Operational	Singapore Port Operations Control Center
South Africa	Cape Town	ASMCC	Operational	Cape Town	Operational	
Spain	Maspalomas	SPMCC	Operational	Maspalomas	Operational	RCC Madrid RCC Balears RCC Canarias
Thailand	Bangkok	THMCC	Operational	Bangkok	Under development	RCC Bangkok
United Kingdom	Kinloss	UKMCC	Operational	Combe Martin	Operational	MRCC Falmouth ARCC Kinloss
United States	Suitland	USMCC	Operational	Alaska California Guam Hawaii Puerto Rico Texas	Operational	RCC Boston RCC Norfolk RCC Miami RCC New Orleans RSC San Juan RCC Cleveland RCC Seattle RCC Honolulu RSC Guam RCC Juneau RCC Alameda Langley AFB, VA Ft Richardson, AK
Vietnam	VNMCC	Haiphong	Under development	Haiphong	Under development	MRCC Vietnam

Notes:

<sup>1</sup> The International Telecommunication Development Corporation.

<sup>2</sup> The NZ LUT is directly connected to the Australian MCC (AUMCC).

<sup>3</sup> Out of operation from 15 October 2001 due to relocation.

## **DISTRESS, EMERGENCY, AND SAFETY TRAFFIC**

### **LIST OF COSPAS-SARSAT GEOLUTs**

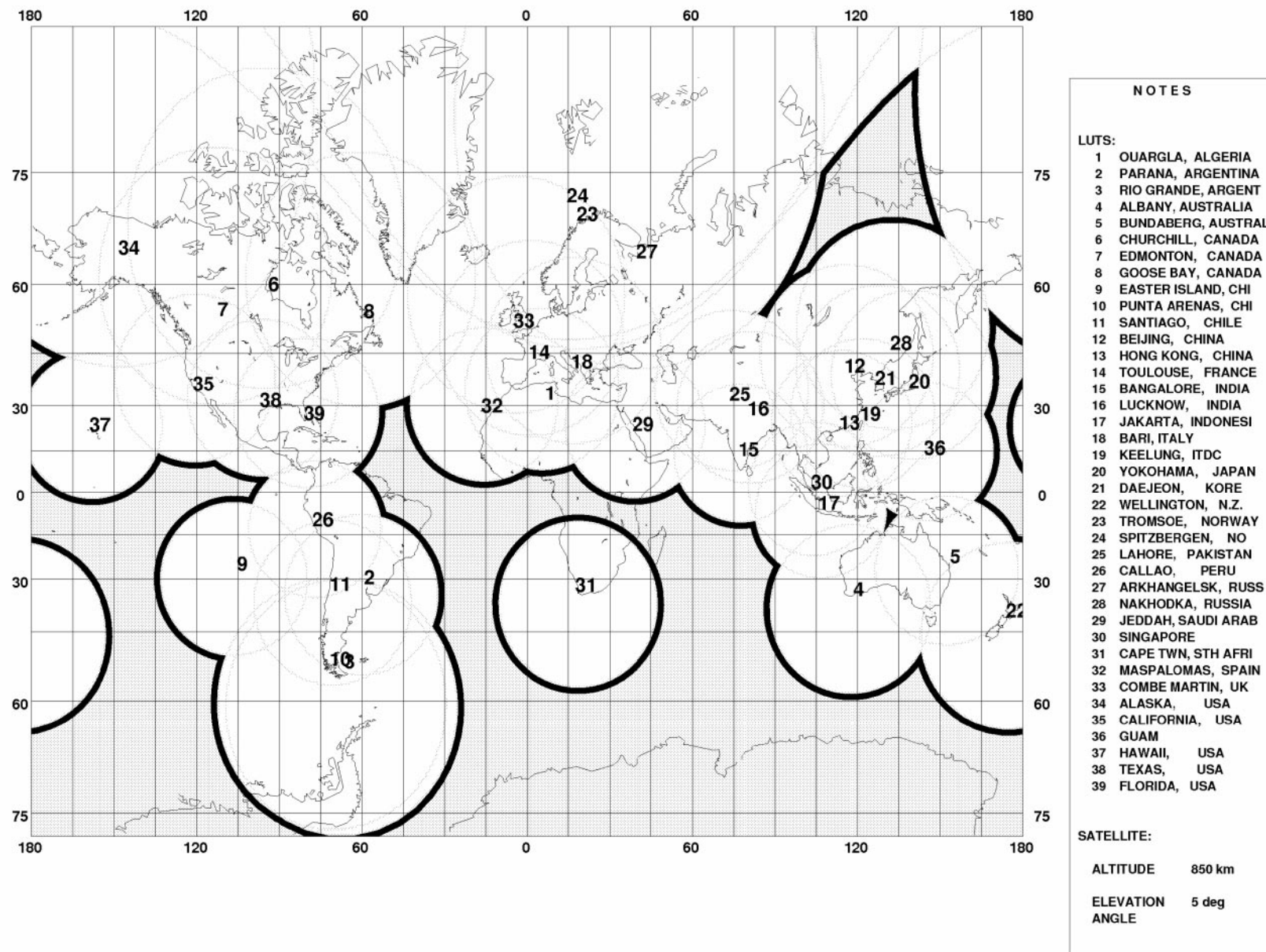
(Extracted from ANNEX 10 of the IMO GMDSS Master Plan)

<b>Country</b>	<b>GEOLUT</b>	
	<b>Location</b>	<b>Status</b>
Argentina	Ezeiza	In operation, commissioned
Brazil	Brasilia Recife	In operation, commissioned In operation, commissioned
Canada	Trenton (1) Trenton (2)	In operation, commissioned In operation, commissioned
Chile	Santiago	In operation, commissioned
France	Toulouse	In operation <sup>1</sup>
India	Bangalore	In operation <sup>1</sup>
New Zealand	Wellington (1) Wellington (2)	In operation, commissioned Under development
Spain	Maspalomas (1) Maspalomas (2)	In operation, commissioned Under development
United Kingdom	Combe Martin	In operation, commissioned

Notes:

<sup>1</sup> GEOLUTs have not been commissioned, however, alert data are used operationally.





Cospas-Sarsat LEOLUTs - white area: 406 & 121.5 MHz coverage; gray: only 406 MHz coverage

## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

### 400G. Global Maritime Distress and Safety System (GMDSS)

The Global Maritime Distress and Safety System (GMDSS) represents a significant improvement in marine safety over the previous system of short range and high seas radio transmissions. Its many parts include satellite as well as advanced terrestrial communications systems. Operational service of the GMDSS began on 1 February 1992, with full implementation achieved on 1 February 1999.

The GMDSS was adopted by amendments in 1988 by the Conference of Contracting Governments to the International Convention for the Safety of Life at Sea (SOLAS), 1974. The GMDSS offers the greatest advancement in maritime safety since the enactment of regulations following the Titanic disaster in 1912. It is an automated ship-to-ship, shore-to-ship and ship-to-shore system covering distress alerting and relay, the provision of Maritime Safety Information (MSI) and basic communication links. Satellite and advanced terrestrial systems are incorporated into a modern communications network to promote and improve safety of life and property at sea throughout the world. The equipment required on board ships will depend not on their tonnage, but rather on the sea area in which the vessel operates. This is fundamentally different from the previous system, which based requirements on vessel size alone. The greatest benefit of the GMDSS is that it vastly reduces the chances of ships sinking without a trace and enables search and rescue (SAR) operations to be launched without delay.

**SHIP CARRIAGE REQUIREMENTS:** By the terms of the SOLAS Convention, the GMDSS provisions apply to cargo ships of 300 gross tons and over and ships carrying more than 12 passengers on international voyages. Unlike previous shipboard carriage regulations that specified equipment according to size of vessel, the GMDSS carriage requirements stipulate equipment according to the area the vessel operates in. These areas are designated as follows:

- Sea Area A1 - An area within the radiotelephone coverage of at least one VHF coast station in which continuous Digital Selective Calling (DSC - a radio receiver that performs distress alerting and safety calling on HF, MF and VHF frequencies) is available, as may be defined by a Contracting Government to the 1974 SOLAS Convention. This area extends from the coast to about 20 miles offshore.
- Sea Area A2 - An area, excluding sea area A1, within the radiotelephone coverage of at least one MF coast station in which continuous DSC alerting is available, as may be defined by a Contracting Government. The general area is from the A1 limit out to about 100 miles offshore.
- Sea Area A3 - An area, excluding sea areas A1 and A2, within the coverage of an Inmarsat geostationary satellite in which continuous alerting is available. This area is from about 70°N to 70°S.
- Sea Area A4 - All areas outside sea areas A1, A2 and A3. This area includes the polar regions, where geostationary satellite coverage is not available.

The GMDSS rules are found in subpart W of Part 80 (Code of Federal Regulations, Title 47, Part 80). Carriage requirements for GMDSS radio equipment can be summarized as follows:

- Sea Area A1 ships will carry VHF equipment and either a satellite or VHF EPIRB.
- Sea Area A2 ships will carry VHF and MF equipment and a satellite EPIRB.
- Sea Area A3 ships will carry VHF, MF, a satellite EPIRB and either HF or satellite communication equipment.
- Sea Area A4 ships will carry VHF, MF and HF equipment and a satellite EPIRB.
- All ships will carry equipment for receiving MSI broadcasts and equipment for survival craft.

Ships at sea must be capable of the following functional GMDSS requirements:

- Ship-to-shore distress alerting (by two independent means, each using a different communication service).
- Shore-to-ship distress alerting.
- Ship-to-ship distress alerting.
- SAR coordination.
- On-scene communications.
- Transmission and receipt of emergency locating signals.
- Transmission and receipt of MSI.
- General radio communications.
- Bridge-to-bridge communications.

To meet the requirements of the functional areas above the following is a list of the minimum communications equipment needed for all ships:

- VHF radio capable of transmitting and receiving DSC on channel 70 and radiotelephony on channels 6, 13, and 16.
- Radio receiver capable of maintaining a continuous DSC watch on VHF channel 70.
- Search and rescue transponders (SART) (two on every passenger vessel and cargo vessels of 500 gross tons and over and at least one on every cargo vessel 300 gross tons and over but less than 500 gross tons) operating in the 9 GHz band.
- Receiver capable of receiving NAVTEX broadcasts anywhere NAVTEX service is available.
- Receiver capable of receiving either SafetyNET or HF NBDP (if service is provided) anywhere NAVTEX is not available.
- Satellite EPIRB capable of being activated manually or float-free self-activated.
- Two-way hand held VHF radios (two sets minimum on 300-500 gross tons cargo vessels and three sets minimum on cargo vessels of 500 gross tons and upward and on all passenger ships).

Additionally, each sea area has its own requirements under GMDSS which are as follows:

#### – Sea Area A1:

Vessels that operate only in Sea Area A1 must meet the above requirements for all ships and the following:

- 1. General VHF radiotelephone capability.
- 2. Capability of initiating a distress alert from a navigational position by using either:
  - (a) VHF DSC; or
  - (b) Category I 406 MHz EPIRB (this requirement may be met by either installing the 406 MHz

## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

- EPIRB required for all ships near the navigational position or by having remote activation capability); or
  - (c) MF DSC; or
  - (d) HF DSC; or
  - (e) an Inmarsat Ship Earth Station (SES).
  - Sea Areas A1 and A2:  
Vessels that operate in Sea Areas A1 and A2 must meet the above requirements for all ships and the following:
    - 1. An MF radio installation capable of distress and safety communications from a navigational position on:
      - (a) 2187.5 kHz using DSC; and
      - (b) 2187.5 kHz using radiotelephony.
    - 2. Equipment capable of maintaining a continuous DSC watch on 2187.5 kHz (may be combined with MF installation in paragraph (1)(a) of this section, but must have separate receiver).
    - 3. Capability of initiating a distress alert from a navigational position by using either:
      - (a) Category I 406 MHz EPIRB (this requirement may be met by installing the 406 MHz EPIRB near the navigational position or by having remote activation capability); or
      - (b) HF DSC; or
      - (c) an Inmarsat SES.
    - 4. Capability of transmitting and receiving general radio communications using radiotelephony or direct-printing telegraphy by either:
      - (a) an MF or HF radio installation operating on working frequencies in the bands 1605-4000 kHz, or 4000-27500 kHz (this capability may be added to the MF installation in paragraph (1) of this section); or
      - (b) an Inmarsat SES.
  - Sea Areas A1, A2 and A3:  
Vessels that operate in Sea Areas A1, A2 and A3 must meet the above requirements for all ships and either, paragraphs (1) - (4) or (5) - (8) of the following:
    - 1. An Inmarsat SES capable of:
      - (a) transmitting and receiving distress and safety communications by means of direct-printing telegraphy;
      - (b) transmitting and receiving distress priority calls;
      - (c) maintaining watch for shore-to-ship distress alerts including those directed to specifically defined geographical areas;
      - (d) transmitting and receiving general radio communications using either radiotelephony or direct-printing telegraphy.
    - 2. An MF radio installation capable of distress and safety communications on:
      - (a) 2187.5 kHz using DSC;
      - (b) 2187.5 kHz using radiotelephony.
    - 3. Equipment capable of maintaining a continuous DSC watch on 2187.5 kHz (may be combined with MF installation in paragraph (2)(a) of this section, but must have separate receiver).
    - 4. Capability of initiating a distress alert by either of the following:
      - (a) Category I 406 MHz EPIRB (this requirement may be met by installing the 406 MHz EPIRB near the navigational position or by having remote activation capability); or
      - (b) HF DSC; or
      - (c) an Inmarsat SES.
    - 5. An MF/HF radio installation capable of transmitting and receiving on all distress and safety frequencies in the bands between 1605-27500 kHz using DSC, radiotelephony, and narrow-band direct-printing telegraphy.
    - 6. Equipment capable of maintaining DSC watch on 2187.5 kHz, 8414.5 kHz and on at least one of the distress and safety DSC frequencies 4207.5 kHz, 6312 kHz, 12577 kHz, or 16804.5 kHz, although it must be possible to select any of these DSC distress and safety frequencies at any time (the watch-maintaining receiver may be separate from or combined with the MF/HF installation in paragraph (5) of this section).
    - 7. Capability of initiating a distress alert by either of the following:
      - (a) Category I 406 MHz EPIRB (this requirement may be met by installing the 406 MHz EPIRB near the navigational position or by having remote activation capability); or
      - (b) a separate Inmarsat SES.
    - 8. Capability of transmitting and receiving general radio communications using radiotelephony or direct-printing telegraphy by an MF/HF radio installation operating on working frequencies in the bands 1605-4000 kHz and 4000-27500 kHz (this capability may be added to the MF/HF installation in paragraph (5) of this section).
- NOTE: It must be possible to initiate transmission of distress alerts by the radio installations specified in paragraphs (1), (2), (4), (5), and (7) of this section from the position from which the ship is normally navigated.
- Sea Areas A1, A2, A3 and A4:  
Vessels that operate in Sea Areas A1, A2, A3 and A4 must meet the above requirements for all ships and the following:
  - 1. An MF/HF radio installation capable of transmitting and receiving on all distress and safety frequencies in the bands between 1605-27500 kHz using DSC, radiotelephony, and narrow-band direct-printing telegraphy.
  - 2. Equipment capable of maintaining DSC watch on 2187.5 kHz, 8414.5 kHz and on at least one of the distress and safety DSC frequencies 4207.5 kHz, 6312 kHz, 12577 kHz, or 16804.5 kHz, although it must be possible to select any of these DSC distress and safety frequencies at any time (the watch-maintaining receiver may be separate from or combined with the MF/HF installation in paragraph (1) of this section).
  - 3. Capability of initiating a distress alert by both of the following:
    - (a) Category I 406 MHz EPIRB (this requirement may be met by installing the 406 MHz EPIRB

## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

- near the navigational position or by having remote activation capability); and
- (b) the MF/HF installation using DSC on any of the above DSC distress alerting frequencies. It must be possible to initiate the distress alert by this means from the position from which the ship is normally navigated.
- 4. Capability of transmitting and receiving general radio communications using radiotelephony and direct-printing telegraphy by an MF/HF radio installation operating on working frequencies in the bands 1605-4000 kHz and 4000-27500 kHz (this capability may be added to the MF/HF installation in paragraph (1) of this section).

GMDSS information, provided by the U.S. Coast Guard Navigation Center, is internet accessible through the World Wide Web at:

<http://www.navcen.uscg.gov/marcomms/default.htm>

The information available includes worldwide NAVTEX and Inmarsat SafetyNET schedules, U.S. NAVTEX service areas, U.S. SAR areas, status of shore-side implementation, regulatory information, NAVAREA chart, HF narrow band direct printing and radiotelephone channels used for distress and safety calling, information on GMDSS coast stations, AMVER and International Ice Patrol information, information concerning radiofacsimile and other maritime safety broadcasts, and digital selective calling information.

### 400H. The Inmarsat System

Inmarsat, a limited private company of more than 600 partners worldwide, is an important element within GMDSS providing maritime safety communications for ships at sea. In accordance with its convention, Inmarsat provides the space segment necessary for improving distress communications, efficiency and management of ships, and maritime correspondence services.

The basic components of the Inmarsat system include the Inmarsat space segment, Land Earth Stations (LESs), and mobile Ship Earth Stations (SESs).

The Inmarsat space segment is comprised of four communications satellites in geostationary orbit that provide primary coverage. Five additional satellites in orbit serve as spares.

The higher polar regions are not visible to the operational satellites and coverage is available between 70°N and 70°S. Satellite coverage is divided into four ocean regions, which are:

- Atlantic Ocean Region - East (AOR-E).
- Atlantic Ocean Region - West (AOR -W).
- Pacific Ocean Region (POR).
- Indian Ocean Region (IOR).

The LESs provide the interface between the satellite network and the public switched telephone network (PSTN), public data network (PDN), and various private line services. These networks link registered information providers to the LES. The data then travels from the LES to the Inmarsat Network Coordination Station (NCS) and

then down to the SESs on ships at sea. Communications between the LES and the Inmarsat satellite are in the 6 GHz band (C-band). The satellite routes ship to shore traffic to the LES in the 4 GHz band (C-band). The SESs provide two-way communications between ship and shore. Communications between the SES and the satellite are in the 1.6 GHz band (L-band), while the satellite routes shore to ship traffic to the SES in the 1.5 GHz band (L-band).

Inmarsat provides four satellite communications systems:

- Inmarsat-A, the original Inmarsat system, operates at a transfer rate of up to 9600 bits per second and provides two-way direct-dial phone, telex, facsimile (fax), electronic mail and data communications. Although Inmarsat-A is approved for fitting in ships as part of their GMDSS equipment, it is not mandatory and does not contribute any unique functionality that is not also provided by other equipment in the full GMDSS suite. NOTE: The scheduled withdrawal of Inmarsat-A services will take effect on 31 December 2007.
- The Inmarsat-B system also provides two-way direct-dial phone, telex, fax and data communications at a transfer rate of up to 9600 bits per second, but uses digital technology to provide high quality, reliable and cost effective communication services.
- Inmarsat-C provides a store and forward data messaging capability (but no voice) at 600 bits per second, and is qualified by the IMO to comply with the GMDSS requirements for receiving MSI data on board ship. Various equipment manufacturers produce this type of SES, which is small, lightweight, and utilizes an omnidirectional antenna.
- Inmarsat Fleet F77 is a fully integrated satellite communication service incorporating voice and data applications. It meets the latest distress and safety requirements, as specified in IMO Resolution A.888 (21), for voice pre-emption and prioritization within the GMDSS. Inmarsat Fleet F77 recognizes four levels of priority:
  - distress,
  - urgency,
  - safety, and
  - other routine communicationsand provides access to emergency communications in both ship-to-shore and shore-to-ship directions for distress, urgency and safety traffic originated by RCCs or other SAR authorities.

NOTE: Inmarsat-A and -B terminals are used for voice and high speed data capability. These terminals must be used in conjunction with a SafetyNET receiver or an Inmarsat-C transceiver. The Inmarsat-C/A and -C/B is the preferred combination for the following reasons:

- A satellite-option vessel must have a transmit capability on either Inmarsat-C/A or -C/B. If the vessel is Inmarsat-A or -B equipped, then the Inmarsat-C provides redundancy.
- The USCG and the National Weather Service strongly encourage vessels which participate in the voluntary AMVER position reporting and weather observing programs to equip with Inmarsat-C since its data

## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

reporting capability enables a much less costly report than does the Inmarsat-A or -B, or HF radioteletype formats. These voluntary ship reports will be accepted by the government at no cost to the ship. The data reporting service is also available at very low cost for other brief reports which can be compressed to 32 bytes of data or less.

- Redundancy in selective equipment is not only very desirable but, under GMDSS rules, gives the vessel greater options in how GMDSS equipment is maintained. Ship owners/operators must generally provide shore-based maintenance, onboard maintenance, and limited equipment duplication.
- Vessels are tracked automatically when a navigation receiver is connected to an Inmarsat terminal by programming an automatic transmission of ship position at specified times or by random polling from shore. This is done with the owner/operator's permission. When a navigation receiver is available, it should be connected to the Inmarsat-C, since the Coast Guard distress alerts are broadcast to all ships within a specified distance from a distress scene. The Inmarsat-C processor will print the alert if the ship's position is within the specified area. Alternatively, the ship's position must be entered manually every four hours to facilitate this safety service.

If a ship will accommodate an Inmarsat-C or SafetyNET receiver in addition to an Inmarsat-A or -B receiver, the separate omnidirectional antenna should be used rather than the stabilized, tracking antenna of the Inmarsat-A or -B. The reason for this is to have a completely separate system in case of an Inmarsat-A or -B antenna failure. There is also a primary designated satellite for SafetyNET broadcasts in each of 16 NAVAREAs worldwide, and the Inmarsat-C should guard that designated satellite when in areas of overlapping coverage (i.e., the Inmarsat-C can track the satellite designated for MSI broadcasts and the Inmarsat-A or -B can track the other satellite, if preferred). Ships with both Inmarsat -A/B and -C terminals should designate one as the primary GMDSS terminal. In most cases the Inmarsat-C will be selected to minimize the emergency power requirements.

**INMARSAT SERVICES:** Enhanced Group Call (EGC) is a message broadcast service within the Inmarsat-C Communications System. It allows terrestrial registered information providers to pass messages or data to mobile Enhanced Group Call (EGC) receivers, class 2 or class 3 SESs, or Inmarsat-A and Inmarsat-B SESs equipped with EGC receivers. EGC messages are sent to the LES by registered shore-based information providers using terrestrial facilities, such as Telex. The messages are processed at the LES and forwarded to a Network Coordination Station (NCS) which transmits them on an NCS common channel. There are two basic services offered by EGC: SafetyNET and FleetNET. SafetyNET is a service provided primarily for the dissemination of MSI, such as ship to shore distress alerts, weather forecasts, and coastal warnings. FleetNET is a commercial communication service which allows registered terrestrial information providers to send messages to predefined groups of subscribers (see EGC Receiver Addressing).

**INMARSAT SES CAPABILITY:** An EGC receiver is defined as a single channel receiver with a dedicated message processor. SES classes 2 and 3 provide an EGC capability in addition to shore to ship and ship to shore messaging capabilities. The mandatory capabilities of an EGC receiver are defined as:

- Continuous reception of an NCS common channel and processing the information according to EGC protocol.
- Automatic recognition of messages directed to a fixed geographic area, and service codes as selected by the receiver operator.

Additional optional capabilities are required for the reception of FleetNET:

- Automatic recognition of uniquely addressed messages directed to a particular receiver.
- Automatic recognition of messages directed to a group to which the receiver operator subscribes.
- Automatic response to group ID updates directed to that EGC receiver, adding or deleting group IDs as commanded.

The EGC receiver shall be capable of being tuned to any channel in the band 1530.0 MHz to 1545.0 MHz in increments of 5 kHz. The EGC receiver shall be equipped with facilities for storing up to 20 NCS channel numbers. Four of these will be permanently assigned global beam frequencies, which are:

NCS	NCS Common Channel Channel No.	Frequency
AOR-W	11080	1537.7 MHz
AOR-E	12580	1541.45 MHz
POR	12580	1541.45 MHz
IOR	10840	1537.1 MHz

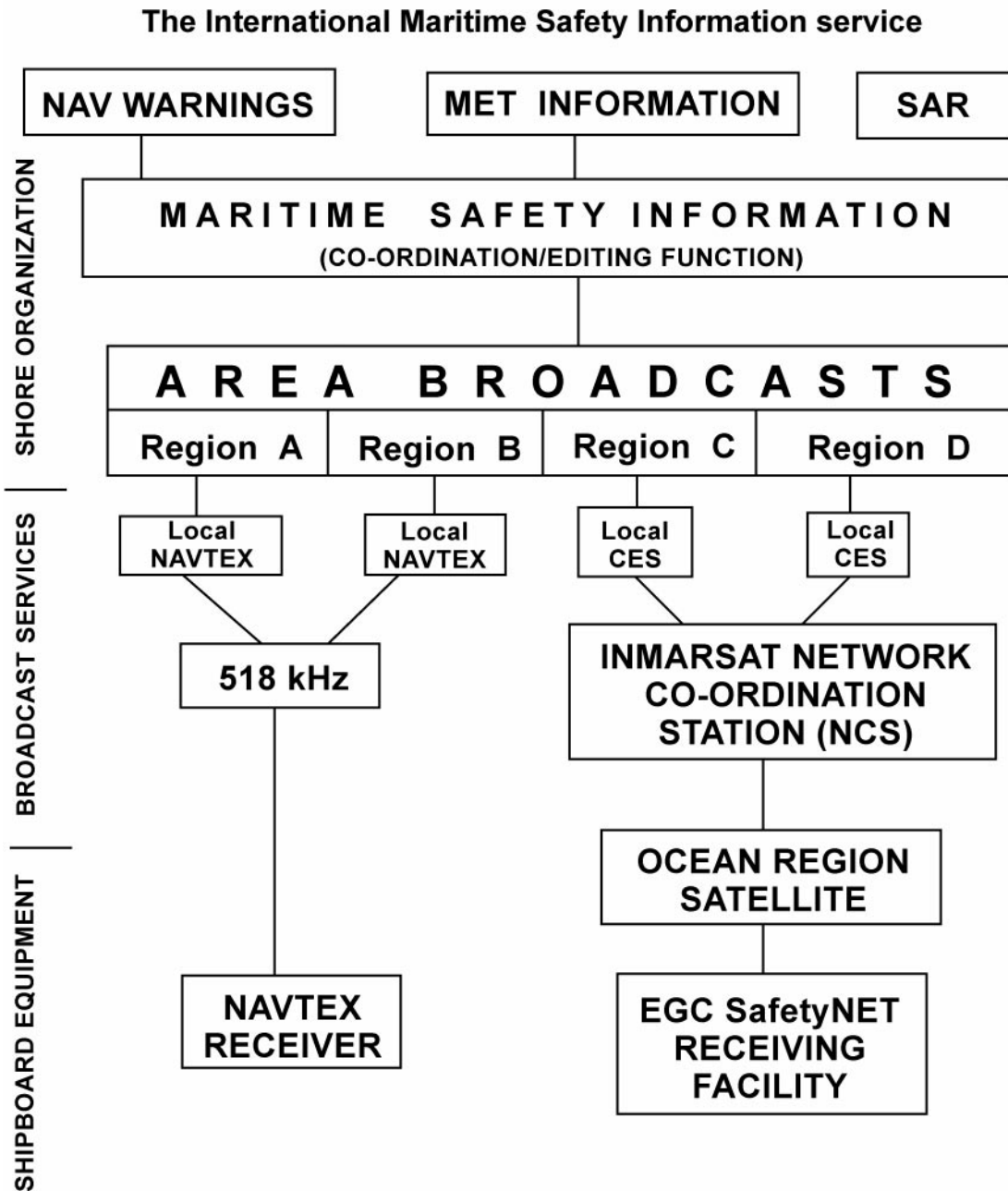
These four numbers shall be stored in ROM and shall not be alterable. The remaining list of NCS Common Channel Frequencies (approximately 16 valid) will be published by Inmarsat and assigned as expansion common channels. These shall be held in non-volatile but alterable storage, and be capable of operator alteration in the event that Inmarsat decides to update the frequency plan by adding, deleting, or changing allocations.

**MESSAGE PROCESSING:** Message processing will be based on the header field. For messages with a double header, the two packets must be regarded as a single message and will not be printed until completely received, even in the case of multipacket messages. Acceptance or rejection of service code-types shall be under operator control with the following exceptions:

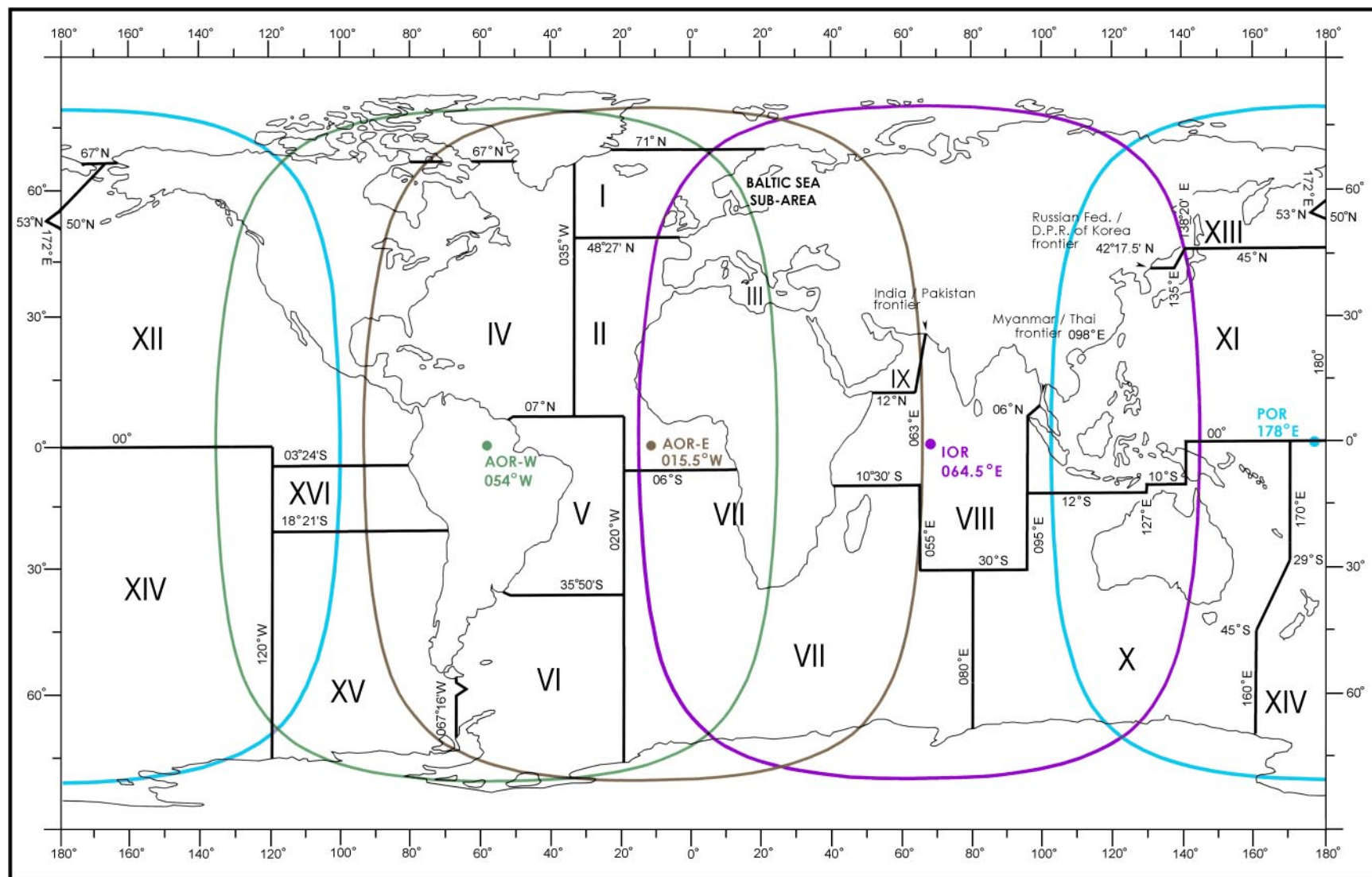
- Receivers shall always receive navigational warnings, meteorological warnings, SAR information, and shore-to-ship distress alerts (which are directed by the geographical area within which the receiver is positioned).
- Unique and group identities shall not be programmable.

**EGC RECEIVER ADDRESSING:** The five basic methods of addressing EGC receivers are:

- All ships call - urgent marine information.
- Inmarsat System message addressing - receives messages according to type and priority.







COVERAGE OF INMARSAT SATELLITES IN RELATION TO THE EXISTING NAV/MET AREAS

## **DISTRESS, EMERGENCY, AND SAFETY TRAFFIC**

- Group addressing - FleetNET, group ID stored within receiver, which is accessible only by RF path.
- Unique addressing - FleetNET, allocated by Inmarsat.
- Geographic addressing - messages sent by ship's position.

**NOTE:** The type of address used in the header of an EGC packet is uniquely determined by the service code field.

Both FleetNET and SafetyNET services make use of a flexible addressing technique to allow the reception of messages from a variety of service providers depending on the particular requirements of the user. The SafetyNET service utilizes geographic area addressing technique to direct messages to ships within a defined boundary.

The FleetNET service employs closer user group and unique receiver addressing to provide secure transmission of a message from the registered terrestrial information provider to the desired recipient(s) (See sec. 400I.).

**MESSAGE SEQUENCING:** All messages will be transmitted with a unique sequence number and originating LES ID. Each subsequent transmission of the message will contain the original sequence number. When a message has been received error-free and a permanent record made, the unique 16 bit sequence number, the LES ID, and the service code field associated with that message are stored in memory and the information used to inhibit the printing of repeated transmissions of the same message. The EGC receiver should be capable of internally storing at least 255 such message identifications. These message identifications should be stored with an indication of the number of hours that have elapsed since the message was received. Subsequent reception of the same message identification shall reset the timer. After between 60 and 72 hours, message identifications may automatically erase. If the number of received message identifications exceeds the capacity of memory allocated for the store, the oldest message identification may be erased.

**TEXT PARAMETERS:** For the EGC service, the International Reference Version of the International Alphabet, as defined in the Consultative Committee on International Telephony and Telegraphy (CCITT) Red Book Rec. T.50, is used. Characters are coded as eight bits using odd parity. Other character sets according to International Standards Organization (ISO) 2022 or CCITT Red Book Rec. T.61 are used optionally for certain services. Inmarsat recommends that EGC equipment capable of receiving messages composed using International Telegraph Alphabet No. 2 do not make use of national options for Numbers 6, 7, and 8 in figure case to avoid varying interpretations in the Inmarsat-C System.

**ERROR DETECTION:** The EGC message will employ three levels of error detection:

- An arithmetic checksum is used to detect packet errors.
- An arithmetic checksum is used to detect header errors.
- Parity checking is used to indicate character errors in the information field.

Only packets with header fields received without error shall be processed for local message recording (even if the packet itself contains an error). In the case of double header messages the message may be processed (even if

one header has been received correctly). A parity check on all incoming characters shall be performed, and in the event of a parity error in a received character, the “low line” character shall be displayed and/or printed. Outputs for multi-packet messages which have been received incomplete should provide a positive indication of the position of the missed packet(s). Subsequent receptions of messages printed with mutilated characters shall be output again until received error-free.

**DISTRESS PRIORITY MESSAGES:** Receipt of a valid distress or urgency priority message will cause the receiver to give an audible alarm. Provision shall be made to extend this alarm to the station from which the ship is normally navigated or other remote stations. This alarm should be reset in manual mode only.

**MESSAGE OUTPUT:** Inmarsat recommends that the EGC receiver have a printer. The display or printer, if fitted, must be capable of presenting at least 40 characters per line of text. The EGC receiver should ensure that if a word cannot be accommodated in full on its line, it shall be transferred to the next line. Where a printer is fitted, a local low paper audible alarm should be installed to give advance warning of a low paper condition. This alarm should be of a different pitch/tone so as not to confuse this alarm with that of the distress alarm. All SafetyNET messages shall be annotated with the time (UTC) and date received. This information shall be displayed or printed with the message.

**NOTE:** The time can be deduced from the frame count.

**OPERATOR CONTROLS:** The following control functions and displays shall be provided as a minimum indication of EGC carrier frame synchronization (or loss of synchronization):

- Selection of an EGC carrier frequency.
- Means of inputting ship's position, current NAVAREA, or current NAVTEX service coverage area.

Receivers shall be fitted with the operator controls to allow the operator to select the desired geographic area and message categories as previously described (see THE INMARSAT SYSTEM, INMARSAT SES CAPABILITY, and EGC RECEIVER ADDRESSING).

**NAVIGATIONAL INTERFACE:** In order that a receiver's position be automatically updated for geographically addressed messages, SOLAS requires that Inmarsat-C equipment have an integral navigation receiver or be externally connected to a satellite navigation receiver. A suggested standard interface is National Marine Electronics Association (NMEA) 0183 Standard for Interfacing Electronic Marine Navigational Devices.

### **400I. The SafetyNET System**

SafetyNET is a service of Inmarsat-C's Enhanced Group Call (EGC) system. The EGC system is a method used to specifically address particular regions or ships. Its unique addressing capabilities allow messages to be sent to all vessels in both fixed geographical areas or to predetermined groups of ships. SafetyNET is the service designated by the IMO through which ships receive Maritime Safety Information.



## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

SafetyNET is an international direct-printing satellite-based service for the promulgation of navigational and meteorological warnings, distress alerts, forecasts, and other safety messages. It fulfills an integral role in GMDSS as developed by the IMO. The ability to receive SafetyNET service information will be generally necessary for all ships that sail beyond coverage of NAVTEX (approximately 200 miles offshore) and is recommended to all administrations having the responsibility for marine affairs and mariners who require effective MSI service in waters not served by NAVTEX.

SafetyNET can direct a message to a given geographic area based on EGC addressing. The area may be fixed, as in the case of a NAVAREA or weather forecast area, or it may be uniquely defined by the originator. This is particularly useful for messages such as local storm warnings or a shore-to-ship distress alerts for which it would be inappropriate to alert ships in an entire ocean region.

SafetyNET messages can be originated by a Registered Information Provider anywhere in the world and broadcast to the appropriate ocean area through an Inmarsat-C LES. Messages are broadcast according to their priority (Distress, Urgency, Safety, or Routine).

Virtually all navigable waters of the world are covered by the operational satellites in the Inmarsat System. Each satellite broadcasts EGC traffic on a designated channel. Any ship sailing within the coverage area of an Inmarsat satellite will be able to receive all the SafetyNET messages broadcast over this channel. The EGC channel is optimized to enable the signal to be monitored by SESs that are dedicated to the reception of EGC messages. This capability can be built into other standard SESs. It is a feature of satellite communications that reception is not generally affected by the position of the ship within the ocean region, atmospheric conditions, or time of the day.

Messages can be transmitted either to geographic areas (area calls) or to groups of ships (group calls):

- Area calls can be to a fixed geographic area, such as one of the 16 NAVAREAs, or to a temporary geographic area selected by the originator. Area calls will be received automatically by any ship whose receiver has been set to one or more fixed areas or recognizes a temporary area by geographic position.
- Group calls will be received automatically by any ship whose receiver acknowledges the unique group identity associated with a particular message.

Reliable delivery of messages is ensured by forward error correction techniques. Experience has demonstrated that the transmission link is generally error-free and low error reception is achieved under normal circumstances.

Given the vast ocean coverage by satellite, some form of discrimination and selectivity in printing the various messages is required. Area calls will be received by all ships within the ocean region coverage of the satellite; however, they will be printed only by those receivers that recognize the fixed area or the geographic position in the message. The message format includes a preamble that enables the microprocessor in a ship's receiver to decide to print those MSI messages that relate to the present

position, intended route, or a fixed area programmed by the operator (See sec. 400H: THE INMARSAT SYSTEM; OPERATOR CONTROLS.). This preamble also allows suppression of certain types of MSI that are not relevant to a particular ship. As each message will also have a unique identity, the reprinting of messages already received correctly is automatically suppressed.

MSI is promulgated by various information providers around the world. Messages for transmission through the SafetyNET service will, in many cases, be the result of coordination between authorities. Information providers will be authorized to broadcast through SafetyNET by IMO. Authorized information providers are:

- National hydrographic offices for navigational warnings.
- National weather services for meteorological warnings and forecasts.
- RCCs for shore-to-ship distress alerts and other urgent information.
- International Ice Patrol for North Atlantic ice hazards.

Each information provider prepares their SafetyNET messages with certain characteristics recognized by the EGC service. These characteristics, known as "C" codes, are combined into a generalized message header format as follows: C1:C2:C3:C4:C5. Each "C" code controls a different broadcast criterion and is assigned a numerical value according to available options. A sixth "C" code, "C0," may be used to indicate the ocean region (e.g., AOR-E, AOR-W, POR, IOR) when sending a message to an LES that operates in more than one ocean region. Because errors in the header format of a message may prevent its being released, MSI providers must install an Inmarsat SafetyNET receiver to monitor the broadcasts it originates. This also ensures quality control.

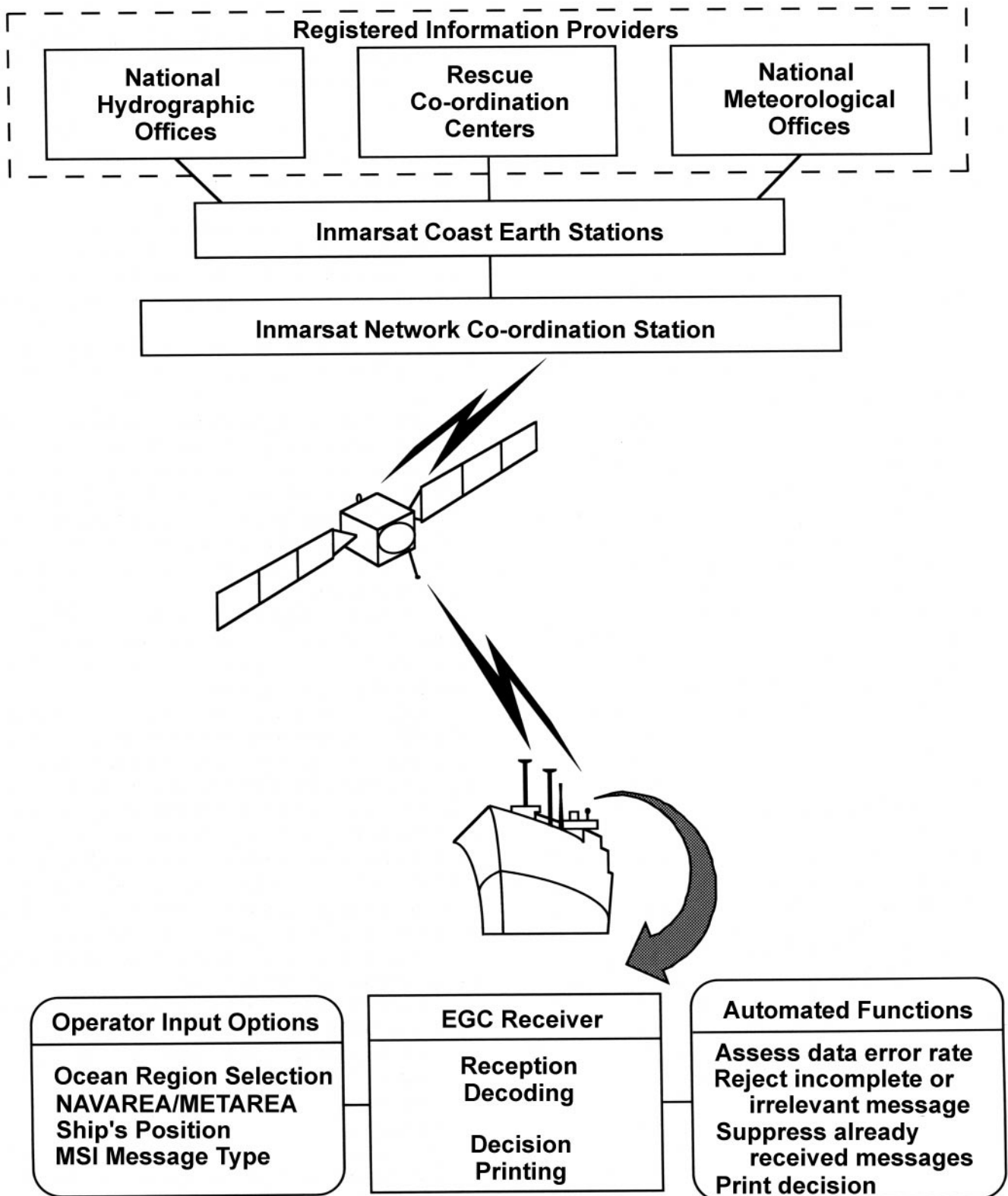
The "C" codes are transparent to the mariner but are used by information providers to identify various transmitting parameters. C1 designates the message priority from distress to urgency, safety, and routine. MSI messages will always be at least at the safety level. C2 is the service code or type of message (for example, long range NAVAREA warning or coastal NAVTEX warning). It also tells the receiver the length of the address (the C3 code) it will need to decode. C3 is the address code. It can be the two digit code for the NAVAREA number for instance, or a 10 digit number to indicate a circular area for a meteorological warning. C4 is the repetition code that instructs the LES in how long and when to send the message to the NCS for actual broadcast. A six minute echo (repeat) may also be used to ensure that an urgency (unscheduled) message has been received by all ships affected. C5 is a constant and represents a presentation code, International Alphabet number 5, "00."

Broadcasts of MSI in the international SafetyNET service are in English. The different types of MSI broadcast over the SafetyNET service include:

- Coastal warnings (broadcast to areas where NAVTEX MSI is not provided):
  - Navigational and meteorological warnings;
  - Ice reports;
  - Search and rescue information;

## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

### The International SafetyNET Service system



## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

### STATUS OF MARITIME SAFETY INFORMATION BROADCASTS INTERNATIONAL SafetyNET SERVICE

NAVAREA/ METAREA	NAV WARNINGS	MET FORECASTS & WARNINGS	SAR ALERTS	OCEAN REGION FOR SCHEDULED BROADCASTS
I (UK)	X	X	X	AOR-E
II (France)	X	X	X	AOR-E + AOR-W
III (Spain/Greece)	X	X	X	AOR-E
IV (USA)	X	X	X	AOR-W
V (Brazil)	X	X	X	AOR-E
VI (Argentina)	X	X	X	AOR-W
VII (South Africa)	X	X	X	AOR-E + IOR
VIII (India/Mauritius/La Reunion)	X	X (Note 3)	X	IOR
IX (Pakistan)	X	X	X	IOR
X (Australia)	X	X	X	IOR + POR
XI (Japan/China)	X	X	X	IOR + POR
XII (USA)	X	X	X	POR + AOR-W
XIII (Russian Federation)	X	X	X	POR
XIV (New Zealand)	X	X	X	POR
XV (Chile)	X	X	X	AOR-W
XVI (Peru/USA)	X	X	X	AOR-W

Notes:

1. X = Full Service now available
2. IMO has decided that routine broadcasts of navigational warnings and meteorological forecasts will be made at scheduled times over a single nominated satellite for each NAVAREA/METAREA. Unscheduled broadcasts of SAR Alert Relays and severe weather warnings will be made over all satellites which serve the area concerned. See the Inmarsat Maritime Communications Handbook for further guidance.
3. India provides meteorological forecasts and warnings for METAREA VIII north of the equator through LES Arvi (IOR). Mauritius/La Reunion provide meteorological forecasts and warnings for METAREA VIII south of the equator through LES Burum, Station 12 (IOR).

## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

- Meteorological forecasts;
- Pilot service messages;
- DECCA, LORAN and SATNAV system messages;
- Other electronic navaid messages;
- Additional navigational messages.
- Meteorological and NAVAREA warnings and meteorological forecasts to ships within specified NAVAREAs/METAREAs.
- Search and rescue coordination to fixed areas.
- Search and rescue coordination to ships within specified circular areas.
- Urgency messages, meteorological and navigational warnings to ships within specified circular areas.
- Shore-to-ship distress alerts to ships within specified circular areas.
- Urgency messages and navigational warnings to ships within specified rectangular.

MSI messages are generally broadcast with a key word in their header indicating the priority of the message, i.e., Distress or MAYDAY for Priority 3, URGENCY or PAN PAN for Priority 2, and SAFETY or SECURITE for Priority 1.

In order to avoid excessive duplication of MSI broadcasts, the IMO has authorized the following arrangements:

- For a given NAVAREA/METAREA which is covered by more than one ocean region satellite, scheduled broadcasts of MSI, such as navigational warnings and meteorological information, are made only through a single nominated satellite/ocean region.
- For a NAVAREA/METAREA which is covered by more than one ocean region satellite, unscheduled broadcasts of MSI, such as gale warnings and distress alert relays, are made through all satellites/ocean regions which cover the area concerned.

SOLAS-compliant vessels must meet the following requirements for receiving MSI broadcasts:

- Watch-keeping - every ship, while at sea, shall maintain a radio watch for broadcasts of Maritime Safety Information on the appropriate frequency or frequencies on which such information is broadcast for the area in which the ship is navigating.
- Logging messages - a written record shall be kept in the radio log of the time and identity of all safety messages received. A printed copy shall be kept of the text of all distress traffic.

In addition to these mandatory requirements, the IMO recommends that all current navigational and meteorological messages be retained on the bridge, for as long as they are applicable, for the use of the person in charge of the navigational watch.

It is recommended that the EGC receiver be updated at least every four hours with the ship's position for the following reasons:

- To decide if the receiver should print a message which it has received addressed to a specific geographic area;
- To print only messages for the required areas (if the ship's position has not been updated for 12 or 24 hours, the receiver will automatically print or store all geographically addressed messages within the entire ocean region);
- To ensure that the correct position is given if a distress alert has to be sent.

SOLAS regulations now require that Inmarsat-C equipment have an integral satellite navigation receiver, or be externally connected to a satellite navigation receiver, i.e., a GPS receiver.

Although an EGC receiver will receive and can print all SafetyNET broadcasts made throughout an entire ocean region, many messages may not be useful to a ship, i.e., those applicable to NAVAREAs beyond the ship's planned voyage, or those on subjects not relevant to the ship's circumstances. Every receiver is supplied with software that stores the geographical boundaries of the NAVAREAs: it can be programmed to print only essential messages applicable to the current area, in addition to any other areas programmed by the operator, and to reject all other messages. The receiver is unable to reject "all ship" messages, such as shore-to-ship distress alerts and MET/NAV warnings.

Under SOLAS requirements, it is mandatory for vessels to receive the following types of SafetyNET MSI messages:

- Shore-to-ship distress alert relays for the current NAVAREA;
- Navigational warnings for the current NAVAREA;
- Meteorological warnings for the current METAREA.

If the ship's EGC receiver does not automatically select these mandatory message types, the operator must program the receiver manually.

In addition, the IMO recommends a ship's EGC receiver be programmed to receive the following messages:

- Meteorological forecasts;
- MSI for any other NAVAREAs in which the ship is expected to sail.

The transmission schedule for the full GMDSS service broadcasts of routine weather bulletins (including warnings) and navigational warnings for the high seas is given in Tables I and II for the different ocean areas (extracted from ANNEX 8 of the IMO GMDSS Master Plan). The actual ocean region satellites through which these bulletins and warnings are transmitted are also indicated.

# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

**TABLE I - GMDSS TRANSMISSION SCHEDULE FOR INTERNATIONAL SAFETYNET SERVICE BROADCASTS OF ROUTINE WEATHER BULLETINS**

NAV/MET AREA	Issuing Country	LES	Broadcast Schedule (UTC)	Ocean Region Satellite
I	United Kingdom	Goonhilly	0930, 2130	AOR-E
II	France	Aussaguel	0900, 2100	AOR-E/AOR-W
III	Greece <sup>1</sup>	Thermopylae	1000, 2200	AOR-E
IV	United States	Southbury	0430, 1030, 1630, 2230	AOR-W
V	Brazil	Tangua	0730, 1930	AOR-E
VI	Argentina	Southbury	0230, 1730	AOR-W
VII	South Africa	Burum	0940, 1940	AOR-E/IOR <sup>2</sup>
VIII	India	Arvi	0900, 1800 (N of 0°)	IOR
	Mauritius/La Reunion	Aussaguel	0130, 1330 (S of 0°) 0000 <sup>3</sup> , 0600 <sup>3</sup> , 1200 <sup>3</sup> , 1800 <sup>3</sup> (S of 0°)	IOR
IX	Pakistan	Perth	0700	IOR
X	Australia	Perth	1030, 2330	IOR
			1100, 2300 0210 <sup>4</sup> , 0645 <sup>4</sup> , 1300 <sup>4</sup> , 1950 <sup>4</sup> (Bass Strait) <sup>5</sup> 0815, 2015 (Northern Territory) <sup>6</sup>	POR
			0800, 2000 (Western Australia) <sup>7</sup>	IOR
XI	China	Beijing	0330, 1015, 1530, 2215	IOR
	Japan <sup>8</sup>	Yamaguchi	0230, 0830, 1430, 2030 (N of 0°) 0815, 2015 (S of 0°)	POR
XII	United States	Southbury/Santa Paula	0545, 1145, 1745, 2345	AOR-W/POR
XIII	Russian Federation	Eik	0930, 2130	POR
XIV	New Zealand	Albany (Auckland)	0930, 2130 0130, 1330 (NZ coast only) 0330, 1530 (warnings only)	POR
XV	Chile	Southbury	1845	AOR-W
XVI	United States	Southbury	0515, 1115, 1715, 2315	AOR-W

<sup>1</sup> Scheduled bulletins and warnings for the western Mediterranean Sea are prepared by France.

<sup>2</sup> Forecast for area 30°S-50°S / 50°E-80°E and tropical cyclone warnings are prepared by La Reunion.

<sup>3</sup> Tropical Cyclone warnings, if any, issued by La Reunion as unscheduled broadcasts.

<sup>4</sup> 1 hour earlier during Australian Eastern Daylight Saving Time.

<sup>5</sup> Coastal warnings and forecasts transmitted only to SafetyNET Coastal Area D in NAVAREA X.

<sup>6</sup> Coastal warnings and forecasts transmitted only to SafetyNET Coastal Areas G and H in NAVAREA X.

<sup>7</sup> Coastal warnings and forecasts transmitted only to SafetyNET Coastal Areas F and G in NAVAREA X.

<sup>8</sup> Scheduled bulletins and warnings for south of the equator prepared by Australia.

# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

**TABLE II - GMDSS TRANSMISSION SCHEDULE FOR INTERNATIONAL SAFETYNET  
SERVICE BROADCASTS OF NAVAREA WARNINGS**

NAV/MET AREA	Coordinator	LES	Broadcast Schedule (UTC)	Ocean Region Satellite
I	United Kingdom	Goonhilly	1730 & as appropriate	AOR-E
II	France	Aussaguel	1630	AOR-E
III	Spain	Thermopylae	1200, 2400 & on receipt	AOR-E
IV	United States	Southbury	1000, 2200	AOR-W
	French Antilles (C <sup>1</sup> )		0900, 2100	
	French Guiana (A <sup>1</sup> )			
V	Brazil	Tangua	0400, 1230	AOR-E
	French Guiana (A <sup>1</sup> )	Southbury	0900, 2100	
VI	Argentina	Southbury	0200, 1400	AOR-W
VII	South Africa	Burum	1940	AOR-E/IOR
	La Reunion (D <sup>1</sup> )	Aussaguel	0040, 1240	IOR
	Mayotte (V <sup>1</sup> )		0330, 1530	
	Kerguelen (K <sup>1</sup> )		0140, 1340	
VIII	India	Arvi	1000	IOR
	La Reunion (D <sup>1</sup> )	Aussaguel	0040, 1240	IOR
	Mayotte (V <sup>1</sup> )		0330, 1530	
IX	Pakistan	Perth	0800	IOR
X	Australia	Perth	0700, 1900 & on receipt	IOR/POR <sup>2</sup>
	New Caledonia (N <sup>1</sup> )	Southbury	0140, 1340	POR
XI	Japan	Beijing/Yamaguchi	0005, 0805, 1205	IOR/POR
XII	United States	Southbury/Santa Paula	1030, 2230	AOR-W/POR
XIII	Russian Federation	Eik	0930, 2130	POR
XIV	New Zealand	Albany (Auckland)	On receipt & every 12 hrs.	POR
	New Caledonia (N <sup>1</sup> )	Southbury	0140, 1340	POR
	Wallis and Futuna (D <sup>1</sup> )		0030, 1230	
	French Polynesia (R <sup>1</sup> )		0250, 1450	
XV	Chile	Southbury	0210, 1410, 2210	AOR-W
XVI	Peru	Southbury	0519, 1119, 1719, 2319	AOR-W

<sup>1</sup> Coastal area code for Coastal Warnings.

<sup>2</sup> NAVAREA X Warnings and Australian Coastal Warnings (coastal area codes A to H).

## **DISTRESS, EMERGENCY, AND SAFETY TRAFFIC**

### **400J. Inmarsat-C SES Maintenance**

The USCG has issued the following Safety Alert concerning the loss of Inmarsat-C safety messages. This advisory notifies users of Inmarsat-C Ship Earth Stations (SESS) that urgent marine information, weather warning and navigational warning broadcast messages, distress-related messages, as well as routine messages may be lost if a printer is not connected to and maintained with the Inmarsat-C terminal, or if floppy drive maintenance is not regularly performed on the terminal. Additionally, certain non-GMDSS-approved software (i.e., windows-based software) may freeze up if this maintenance is not performed.

All GMDSS versions of Inmarsat-C have approved data terminal equipment (DTE) that interfaces with the user. DTE generally refers to the computer and screen, keyboard, and printer (or user interface). These terminals are required to use only Inmarsat approved hardware and software. However, users need to understand that proper usage and housekeeping maintenance of the equipment is essential to ensure optimum user availability.

To avoid problems, and to ensure that unnecessary and irrelevant messages are not received, the recommended operating procedures in the manufacturer's equipment operating handbook and the below procedures should be followed:

**MESSAGE/ARCHIVE LOG:** All ingoing and outgoing messages are recorded on a disk in special log files. Each log file may hold a limited number of messages (limited by disk size or PC storage capacity). When the free disk space falls below a certain size, the terminal will display an error message asking to insert an empty disk. A new message/archive log file will then be generated on the new disk.

**DISK DIRECTORY:** If so configured, ingoing and outgoing messages (OUT.xxx, IN.xxx, EGC.xxx) can be stored on a disk (this is different than the message/archive log), where they can be viewed, erased, printed, and copied to different directories. On some models the directory shows the number of files (messages) stored on the disk/directory and this number is limited to 112 files (messages) regardless of the free space left. If the disk already holds 112 messages, you will not be able to store any more messages. When the disk is full, use the "erase/delete" command to delete unwanted files and create free space for new messages.

**MESSAGE ROUTING:** Check the message routing option on the terminal. Incoming mail should be routed to at least one of the output media—disk or printer. Enhanced Group Call (EGC) SafetyNET messages with Urgency and Distress priority will be printed out automatically, if a printer is fitted. EGC SafetyNET messages with Safety priority can be printed out (user option), otherwise they will be stored on the disk. EGC FleetNET messages can be printed out (user option), otherwise they will be stored on the disk. If the Inmarsat-C is connected to a separate PC, a path for saving incoming and outgoing mail and EGC messages should be inserted/specified per the manufacturer's handbook.

**EGC SAFETYNET SET UP:** Ensure that you are logged into the appropriate satellite for the scheduled maritime safety information (MSI) that you wish to receive. Otherwise log in to the satellite that broadcasts the MSI for your required area of operation. Timetables of broadcast and nominated satellites can be found in various national/international publications, such as Pub. 117, Radio Navigational Aids (See Tables I and II in sec. 400I.), the IMO GMDSS Master Plan (GMDSS/Circ.8), or the Admiralty List of Radio Signals, Volume 5. Ensure that your position (Lat/Long) on the SES position screen is valid. Otherwise you will receive and print ALL EGC SafetyNET messages broadcast via the satellite. If automatic position updating is not available, it is essential to manually update the position on a regular basis, i.e., every 4 hours. Instructions for doing this are in the manufacturer's handbook.

If properly set up, your SES will automatically receive all relevant NAVAREA/METAREA and other maritime safety information addressed to the area where you are in. If you require additional information for adjacent area(s), you must program your terminal to receive this information. Be careful if using the "EGC only" option. If this option is selected, the terminal will, effectively, be logged out and you will not be able to receive normal messages (mail) on your terminal. Also, if you choose "EGC only," previous EGC settings may be ignored and the terminal may receive all EGC messages within the ocean region.

If Inmarsat-C is used for communication (not as a supervisory control and data acquisition (SCADA) or "black box" terminal), it MUST have a DTE terminal which includes a keyboard, Video Display Unit, and printer. Every Inmarsat-C terminal, if properly configured, set up and maintained, will receive all relevant messages addressed to it. These messages will be displayed or printed out, stored, or both. Improper settings, including printer settings, not in accordance with the manufacturer's instructions, will degrade the performance.

### **400K. Digital Selective Calling (DSC)**

Digital Selective Calling (DSC) is an integral part of the GMDSS used primarily for transmitting distress alerts from ships and for transmitting the associated acknowledgments from coast stations. DSC is a digital calling system which uses frequencies in the MF, HF or VHF bands. The advantages of DSC include faster alerting capabilities and automatic transmission of information such as ship's identity, time, nature of distress, and position. IMO and ITU regulations both require that the DSC-equipped VHF and MF/HF radios be externally connected to a satellite navigation receiver (i.e., GPS). This connection will ensure that accurate location information is sent to a RCC if a distress alert is transmitted. FCC regulations require that the ship's navigation position is entered, either manually or automatically through a navigation receiver, into all installed DSC equipment at least every four hours while the ship is underway (47 CFR 80.1073).

## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

Since 1 February 1999, the GMDSS provisions to the SOLAS Convention require all passenger ships and most other ships 300 gross tons and over on international voyages, including all cargo ships, to carry DSC-equipped radios. A listening watch aboard GMDSS-equipped ships on 2182 kHz ended on that date. In May 2002, the IMO decided to postpone cessation of a listening watch aboard GMDSS-equipped ships on VHF Channel 16 (156.8 MHz). That listening watch had been scheduled to end on 1 February 2005. Once SOLAS vessels are allowed to disband watchkeeping on VHF radiotelephone, it will not be possible to initiate radio communications with these vessels outside the U.S. territorial limit without DSC-capable radios. The U.S. Coast Guard recommends that VHF, MF and HF radiotelephone equipment carried on ships should include a DSC capability as a matter of safety. To achieve this, the FCC requires that all new VHF and MF/HF maritime radiotelephones type accepted after June 1999 to have at least a basic DSC capability.

The content of a DSC call includes the numerical address of the station (or stations) to which the call is transmitted, the self-identification of the transmitting station, and a message which contains several fields of information indicating the purpose of the call. Various types of DSC calls are available in one of four priorities: Distress, Urgency, Safety or Routine. Routine calls could indicate that a routine communication, i.e., telephony or telegraphy, is required; or they could include calls related to the operation of the ship, e.g., calls to port authorities, pilots.

A receiving station accepting a DSC call receives a display or printout of the address, the self-identification of the transmitting station, and the content of the DSC message, together with an audible or visual alarm (or both) for distress and safety related calls. To increase the probability of a DSC distress call or relay being received, it is repeated several times. The transmission speed of a DSC call is 100 baud at MF and HF and 1200 baud at VHF. Error correction coding is included, involving the transmission of each character twice, together with an overall message check character which is to ensure the technical integrity of the DSC system.

In an effort to reduce the number of DSC relays of distress alerts on all shipboard DSC equipment, the IMO has issued COMSAR/Circ.25 (dated 15 March 2001) which provides new procedures for responding to VHF/MF and HF distress alerts.

Circ.25 is summarized as follows:

- Distress relays and acknowledgments of all types should only be sent on the Master's authority.
- Ships should not acknowledge DSC alerts by sending a return DSC call; they should acknowledge only by radiotelephony.
- Ships receiving a DSC distress alert on VHF Ch. 70 or MF 2187.5 kHz are not permitted to relay the call by DSC under any circumstances (they may relay by other means).
- Ships receiving a DSC distress alert on HF should wait for a period of 5 minutes of manual watchkeeping to ascertain whether it has been acknowledged by DSC,

radiotelephony or NBDP. If a DSC relay is then judged to be necessary, it should be initiated manually only to the appropriate coast station.

- Ships may only send a distress relay call (distress alert on behalf of another vessel), if the following two conditions both apply:
  - the ship in distress is not itself able to transmit its own distress alert, and
  - the Master of the ship considers that further help is necessary.

The distress relay call should be addressed to "all ships" or to the appropriate coast station.

Flow diagrams, which describe the actions to be taken aboard ships upon receipt of DSC distress alerts from other ships, can be found on pgs. 4-51 and 4-53. The IMO recommends that these flow diagrams be displayed on the ship's bridge.

In an effort to manage and reduce the number of test calls on the MF/HF DSC distress and safety frequencies, the IMO has issued COMSAR/Circ.35 (dated 21 May 2004), with the following recommendation: to ensure that excessive test calls on DSC do not overload the system, live testing on DSC distress and safety frequencies with coast stations should be limited to once a week.

The following DSC Operational Procedures for Ships were adapted from Annex 3 of ITU Recommendation M.541-9, Operational Procedures for the use of Digital Selective-Calling (DSC) Equipment in the Maritime Mobile Service. Operating procedures may vary somewhat among different radios, depending upon radio design, software configuration, and the DSC processor/radio transceiver connection.

### 1 DISTRESS:

**1.1 Transmission of DSC distress alert:** A distress alert should be transmitted if, in the opinion of the Master, the ship or a person is in distress and requires immediate assistance. A DSC distress alert should as far as possible include the ship's last known position and the time (in UTC) when it was valid. The position and the time may be included automatically by the ship's navigational equipment or may be inserted manually.

The DSC distress alert is transmitted as follows:

- tune the transmitter to the DSC distress channel (2187.5 kHz on MF, channel 70 on VHF (see Note 1 below));
- if time permits, key in or select on the DSC equipment keyboard (in accordance with the DSC equipment manufacturer's instructions):
  - the nature of the distress;
  - the ship's last known position (latitude and longitude);
  - the time (in UTC) the position was valid;
  - type of subsequent distress communication (telephony).
- transmit the DSC distress alert;
- prepare for the subsequent distress traffic by tuning the transmitter and the radiotelephony receiver to the distress traffic channel in the same band, i.e., 2182 kHz on MF, channel 16 on VHF, while waiting for the DSC distress acknowledgment.

NOTE 1: Some maritime MF radiotelephony transmitters shall be tuned to a frequency 1700 Hz lower



## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

than 2187.5 kHz, i.e., 2185.8 kHz, in order to transmit the DSC distress alert on 2187.5 kHz.

**1.2 Actions on receipt of a distress alert:** Ships receiving a DSC distress alert from another ship should normally not acknowledge the alert by DSC since acknowledgment of a DSC distress alert by use of DSC is normally made by coast stations only. (Ships receiving a DSC distress alert from another ship should set watch on an associated radiotelephone distress and safety traffic frequency and acknowledge the call by radiotelephony. See also section 6.1.4.).

If a ship station continues to receive a DSC distress alert on an MF or VHF channel, a DSC acknowledgment should be transmitted to terminate the call only after consulting with a Rescue Coordination Center (RCC) or a Coast Station and being directed to do so.

Ships receiving a DSC distress alert from another ship should also defer the acknowledgment of the distress alert by radiotelephony for a short interval, if the ship is within an area covered by one or more coast stations, in order to give the coast station time to acknowledge the DSC distress alert first.

Ships receiving a DSC distress alert from another ship shall:

- watch for the reception of a distress acknowledgment on the distress channel (2187.5 kHz on MF and channel 70 on VHF);
- prepare for receiving the subsequent distress communication by tuning the radiotelephony receiver to the distress traffic frequency in the same band in which the DSC distress alert was received, i.e., 2182 kHz on MF, channel 16 on VHF;
- acknowledge the receipt of the distress alert by transmitting the following by radiotelephony on the distress traffic frequency in the same band in which the DSC distress alert was received, i.e., 2182 kHz on MF, channel 16 on VHF:
  - “MAYDAY;”
  - the 9-digit identity of the ship in distress, repeated 3 times;
  - “this is;”
  - the 9-digit identity or the call sign or other identification of own ship, repeated 3 times;
  - “RECEIVED MAYDAY.”

**1.3 Distress traffic:** On receipt of a DSC distress acknowledgment the ship in distress should commence the distress traffic by radiotelephony on the distress traffic frequency (2182 kHz on MF, channel 16 on VHF) as follows:

- “MAYDAY;”
- “this is;”
- the 9-digit identity and the call sign or other identification of the ship;
- the ship’s position in latitude and longitude or other reference to a known geographical location;
- the nature of the distress and assistance wanted;
- any other information which might facilitate the rescue.

**1.4 Transmission of a DSC distress relay call:** In no case is a ship permitted to transmit an all ships DSC distress relay call on receipt of a DSC distress alert on

either VHF or MF channels. If no aural watch is present on the relative channel (2182 kHz on MF, channel 16 on VHF), the coast station should be contacted by sending an individual DSC distress relay call.

**1.4.1 Transmission of a DSC distress relay call on behalf of someone else:** A ship knowing that another ship is in distress shall transmit a DSC distress relay call if:

- the ship in distress is not itself able to transmit the distress alert;
- the Master of the ship considers that further help is necessary.

The DSC distress relay call is transmitted as follows:

- tune the transmitter to the DSC distress channel (2187.5 kHz on MF, channel 70 on VHF);
- select the distress relay call format on the DSC equipment;
- key in or select on the DSC equipment keyboard:
  - All Ships Call (VHF), Geographic Area Call (MF/HF) or the 9-digit identity of the appropriate coast station;
  - the 9-digit identity of the ship in distress, if known;
  - the nature of the distress;
  - the latest position of the ship in distress, if known;
  - the time (in UTC) the position was valid (if known);
  - type of subsequent distress communication (telephony).
- transmit the DSC distress relay call;
- prepare for the subsequent distress traffic by tuning the transmitter and the radiotelephony receiver to the distress traffic channel in the same band, i.e., 2182 kHz on MF and channel 16 on VHF, while waiting for the DSC distress acknowledgment.

**1.5 Acknowledgment of a DSC distress relay call received from a coast station:** Coast stations, after having received and acknowledged a DSC distress alert, may if necessary, retransmit the information received as a DSC distress relay call, addressed to all ships (VHF only), all ships in a specific geographical area (MF/HF only), or a specific ship.

Ships receiving a distress relay call transmitted by a coast station shall not use DSC to acknowledge the call, but should acknowledge the receipt of the call by radiotelephony on the distress traffic channel in the same band in which the relay call was received, i.e., 2182 kHz on MF, channel 16 on VHF.

Acknowledge the receipt of the distress relay call by transmitting the following by radiotelephony on the distress traffic frequency in the same band in which the DSC distress relay call was received:

- “MAYDAY RELAY;”
- the 9-digit identity or the call sign or other identification of the calling coast station;
- “this is;”
- the 9-digit identity or call sign or other identification of own ship;
- “RECEIVED MAYDAY RELAY.”

**1.6 Acknowledgment of a DSC distress relay call received from another ship:** Ships receiving a distress relay call from another ship shall follow the same procedure as for acknowledgment of a distress alert, i.e., the procedure given in section 1.2 above.

## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

**1.7 Cancellation of an inadvertent distress alert:** A station transmitting an inadvertent distress alert shall cancel the distress alert using the following procedure:

- **1.7.1** Immediately cancel the distress alert aurally over the telephony distress traffic channel associated with each DSC channel on which the “distress alert” was transmitted.
- **1.7.2** Monitor the telephony distress traffic channel associated with the DSC channel on which the distress was transmitted, and respond to any communications concerning that distress alert as appropriate.

### 2 URGENCY:

**2.1 Transmission of urgency messages:** Transmission of urgency messages shall be carried out in two steps:

- announcement of the urgency message;
- transmission of the urgency message.

The announcement is carried out by transmission of a DSC urgency call on the DSC distress calling channel (2187.5 kHz on MF, channel 70 on VHF). The urgency message is transmitted on the distress traffic channel (2182 kHz on MF, channel 16 on VHF). The DSC urgency call may be addressed to all stations at VHF, or a geographic area at MF/HF, or to a specific station. The frequency on which the urgency message will be transmitted shall be included in the DSC urgency call.

The transmission of an urgency message is thus carried out as follows:

Announcement:

- tune the transmitter to the DSC distress calling channel (2187.5 kHz on MF, channel 70 on VHF);
- select the appropriate calling format on the DSC equipment (all ships (VHF only), geographical area (MF/HF only) or individual);
- key in or select on the DSC equipment keyboard (in accordance with the DSC equipment manufacturer’s instructions):
  - specific area or 9-digit identity of the specific station, if appropriate;
  - the category of the call (urgency);
  - the frequency or channel on which the urgency message will be transmitted;
  - the type of communication in which the urgency message will be given (radiotelephony).
- transmit the DSC urgency call.

Transmission of the urgency message:

- tune the transmitter to the frequency or channel indicated in the DSC urgency call;
- transmit the urgency message as follows:
  - “PAN PAN,” repeated 3 times;
  - “ALL STATIONS” or called station, repeated 3 times;
  - “this is;”
  - the 9-digit identity and the call sign or other identification of own ship;
  - the text of the urgency message.

**2.2 Reception of an urgency message:** Ships receiving a DSC urgency call announcing an urgency message addressed to more than one station shall NOT acknowledge the receipt of the DSC call, but should tune the radiotelephony receiver to the frequency indicated in the call and listen to the urgency message.

### 3 SAFETY:

**3.1 Transmission of safety messages:** Transmission of safety messages shall be carried out in two steps:

- announcement of the safety message;
- transmission of the safety message.

The announcement is carried out by transmission of a DSC safety call on the DSC distress calling channel (2187.5 kHz on MF, channel 70 on VHF). The safety message is normally transmitted on the distress and safety traffic channel in the same band in which the DSC call was sent, i.e., 2182 kHz on MF, channel 16 on VHF. The DSC safety call may be addressed to all ships (VHF only), ships in a specific geographical area (MF/HF only), or to a specific station. The frequency on which the safety message will be transmitted shall be included in the DSC call.

The transmission of a safety message is thus carried out as follows:

Announcement:

- tune the transmitter to the DSC distress calling channel (2187.5 kHz on MF, channel 70 on VHF);
- select the appropriate calling format on the DSC equipment (all ships (VHF only), geographical area (MF/HF only), or individual);
- key in or select on the DSC equipment keyboard (in accordance with the DSC equipment manufacturer’s instructions):
  - specific area or 9-digit identity of specific station, if appropriate;
  - the category of the call (safety);
  - the frequency or channel on which the safety message will be transmitted;
  - the type of communication in which the safety message will be given (radiotelephony).
- transmit the DSC safety call.

Transmission of the safety message:

- tune the transmitter to the frequency or channel indicated in the DSC safety call;
- transmit the safety message as follows:
  - “SECURITE,” repeated 3 times;
  - “ALL STATIONS” or called station, repeated 3 times;
  - “this is;”
  - the 9-digit identity and the call sign or other identification of own ship;
  - the text of the safety message.

**3.2 Reception of a safety message:** Ships receiving a DSC safety call announcing a safety message addressed to more than one station shall NOT acknowledge the receipt of the DSC safety call, but should tune the radiotelephony receiver to the frequency indicated in the call and listen to the safety message.

### 4 PUBLIC CORRESPONDENCE:

#### 4.1 DSC channels for public correspondence:

- **4.1.1 VHF:** The VHF DSC channel 70 is used for DSC for distress and safety purposes as well as for DSC for public correspondence.
- **4.1.2 MF:** International and national DSC channels separate from the DSC distress and safety calling channel 2187.5 kHz are used for digital selective-calling on MF for public correspondence. Ships calling a coast

## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

station by DSC on MF for public correspondence should preferably use the coast station's national DSC channel. The international DSC channel for public correspondence may as a general rule be used between ships and coast stations of different nationality. The ships transmitting frequency is 2189.5 kHz, and the receiving frequency is 2177 kHz. The frequency 2177 kHz is also used for DSC between ships for general communication.

**4.2 Transmission of a DSC call for public correspondence to a coast station or another ship:** A DSC call for public correspondence to a coast station or another ship is transmitted as follows:

- tune the transmitter to the relevant DSC channel;
- select the format for calling a specific station on the DSC equipment;
- key in or select on the DSC equipment keyboard (in accordance with the DSC equipment manufacturer's instructions):
  - the 9-digit identity of the station to be called;
  - the category of the call (routine);
  - the type of subsequent communication (normally radiotelephony);
  - a proposed working channel if calling another ship. A proposal for a working channel should NOT be included in calls to a coast station; the coast station will in its DSC acknowledgment indicate a vacant working channel;
- transmit the DSC call.

**4.3 Repeating a call:** A DSC call for public correspondence may be repeated on the same or another DSC channel, if no acknowledgment is received within 5 minutes. Further call attempts should be delayed at least 15 minutes, if acknowledgment is still not received.

**4.4 Acknowledgment of a received call and preparation for reception of the traffic:** On receipt of a DSC call from a coast station or another ship, a DSC acknowledgment is transmitted as follows:

- tune the transmitter to the transmit frequency of the DSC channel on which the call was received;
- select the acknowledgment format on the DSC equipment;
- transmit an acknowledgment indicating whether the ship is able to communicate as proposed in the call (type of communication and working frequency);
- if able to communicate as indicated, tune the transmitter and the radiotelephony receiver to the indicated working channel and prepare to receive the traffic.

**4.5 Reception of acknowledgment and further actions:** When receiving an acknowledgment indicating that the called station is able to receive the traffic, prepare to transmit the traffic as follows:

- tune the transmitter and receiver to the indicated working channel;
- commence the communication on the working channel by:
  - the 9-digit identity or call sign or other identification of the called station;
  - “this is;”
  - the 9-digit identity or call sign or other identification of own ship.

It will normally rest with the ship to call again a little later in case the acknowledgment from the coast station indicates that the coast station is not able to receive the traffic immediately. In case the ship, in response to a call to another ship, receives an acknowledgment indicating that the other ship is not able to receive the traffic immediately, it will normally rest with the called ship to transmit a call to the calling ship when ready to receive the traffic.

### 5 TESTING THE EQUIPMENT USED FOR DISTRESS AND SAFETY:

Testing on the exclusive DSC distress and safety calling frequency 2187.5 kHz should be avoided as far as possible by using other methods. Test calls should be transmitted by the ship station and acknowledged by the called station. Normally there would be no further communication between the two stations involved.

A VHF and MF test call to a station is transmitted as follows:

- tune the transmitter to the DSC distress and safety calling frequency (i.e., channel 70 and 2187.5 kHz);
- key in or select the format for the test call on the DSC equipment in accordance with the DSC equipment manufacturer's instructions;
- key in the 9-digit identity of the station to be called;
- transmit the DSC call after checking as far as possible that no calls are in progress on the frequency;
- wait for acknowledgment.

### 6 SPECIAL CONDITIONS AND PROCEDURES FOR DSC COMMUNICATION ON HF:

**General:** The procedures for DSC communication on HF are—with some additions described in 6.1 to 6.3 below—equal to the corresponding procedures for DSC communications on MF/VHF. Due regard to the special conditions described in 6.1 to 6.3 should be given when making DSC communications on HF.

#### 6.1 DISTRESS:

**6.1.1 Transmission of DSC distress alert:** DSC distress alert should be sent to coast stations - i.e., in A3 and A4 sea areas on HF - and on MF and/or VHF to other ships in the vicinity. The DSC distress alert should as far as possible include the ship's last known position and the time (in UTC) it was valid. If the position and time is not inserted automatically from the ship's navigational equipment, it should be inserted manually.

**Ship-to-shore distress alert (Choice of HF band):** Propagation characteristics of HF radio waves for the actual season and time of the day should be taken into account when choosing HF bands for transmission of DSC distress alert. As a general rule the DSC distress channel in the 8 MHz maritime band (8414.5 kHz) may in many cases be an appropriate first choice. Transmission of the DSC distress alert in more than one HF band will normally increase the probability of successful reception of the alert by coast stations.

DSC distress alert may be sent on a number of HF bands in two different ways:

- (1) either by transmitting the DSC distress alert on one HF band, and waiting a few minutes for receiving acknowledgment by a coast station;

## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

if no acknowledgment is received within 3 minutes, the process is repeated by transmitting the DSC distress alert on another appropriate HF band etc.;

- (2) or by transmitting the DSC distress alert at a number of HF bands with no, or only very short, pauses between the calls, without waiting for acknowledgment between the calls.

It is recommended to follow procedure (1) in all cases, where time permits to do so; this will make it easier to choose the appropriate HF band for commencement of the subsequent communication with the coast station on the corresponding distress traffic channel.

Transmitting the DSC distress alert (see Note 1 below):

- tune the transmitter to the chosen HF DSC distress channel (4207.5, 6312, 8414.5, 12577, 16804.5 kHz) (see Note 2);
- follow the instructions for keying in or selection of relevant information on the DSC equipment keyboard as described in section 1.1;
- transmit the DSC distress alert.

In special cases, for example in tropical zones, transmission of DSC distress alert on HF may, in addition to ship-to-shore alerting, also be useful for ship-to-ship alerting.

NOTE 1: Ship-to-ship distress alert should normally be made on MF and/or VHF, using the procedures for transmission of DSC distress alert on MF/VHF described in section 1.1.

NOTE 2: Some maritime HF transmitters shall be tuned to a frequency 1700 Hz lower than the DSC frequencies given above in order to transmit the DSC distress alert on the correct frequency.

### 6.1.2 Preparation for the subsequent distress traffic:

After having transmitted the DSC distress alert on appropriate DSC distress channels (HF, MF and/or VHF), prepare for the subsequent distress traffic by tuning the radiocommunication set(s) (HF, MF and/or VHF as appropriate) to the corresponding distress traffic channel(s).

Where multiple frequency call attempts are transmitted the corresponding distress traffic frequency should be 8291 kHz.

If method (2) described in section 6.1.1 has been used for transmission of DSC distress alert on a number of HF bands:

- take into account in which HF band(s) acknowledgment has been successfully received from a coast station;
- if acknowledgments have been received on more than one HF band, commence the transmission of distress traffic on one of these bands, but if no response is received from a coast station then the other bands should be used in turn.

The distress traffic frequencies are:

HF (kHz):

Telephony	Telex
4125	4177.5
6215	6268
8291	8376.5

HF (kHz):

Telephony	Telex
12290	12520
16420	16695

MF (kHz):

Telephony	Telex
2182	2174.5

VHF:

Channel 16 (156.800 MHz)

**6.1.3 Distress traffic:** The procedures described in section 1.3 are used when the distress traffic on MF/HF is carried out by radiotelephony.

The following procedures shall be used in cases where the distress traffic on MF/HF is carried out by radiotelex:

- the forward error correcting (FEC) mode shall be used;
- all messages shall be preceded by:
  - at least one carriage return;
  - line feed;
  - one letter shift;
  - the distress signal “MAYDAY.”
- the ship in distress should commence the distress telex traffic on the appropriate distress telex traffic channel as follows:
  - carriage return, line feed, letter shift;
  - the distress signal “MAYDAY;”
  - “this is;”
  - the 9-digit identity and call sign or other identification of the ship;
  - the ship’s position if not included in the DSC distress alert;
  - the nature of distress;
  - any other information which might facilitate the rescue.

**6.1.4 Actions on reception of a DSC distress alert on HF from another ship:** Ships receiving a DSC distress alert on HF from another ship shall not acknowledge the alert, but should:

- watch for reception of a DSC distress acknowledgment from a coast station;
- while waiting for reception of a DSC distress acknowledgment from a coast station: prepare for reception of the subsequent distress communication by tuning the HF radiocommunication set (transmitter and receiver) to the relevant distress traffic channel in the same HF band in which the DSC distress alert was received, observing the following conditions:
  - if radiotelephony mode was indicated in the DSC distress alert, the HF radiocommunication set should be tuned to the radiotelephony distress traffic channel in the HF band concerned;
  - if telex mode was indicated in the DSC distress alert, the HF radiocommunication set should be tuned to the radiotelex distress traffic channel in the HF band concerned. Ships able to do so should additionally

## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

watch the corresponding radiotelephony distress channel;

- if the DSC distress alert was received on more than one HF band, the radiocommunication set should be tuned to the relevant distress traffic channel in the HF band considered to be the best one in the actual case. If the DSC distress alert was received successfully on the 8 MHz band, this band may in many cases be an appropriate first choice;
- if no distress traffic is received on the HF channel within 1 to 2 minutes, tune the HF radiocommunication set to the relevant distress traffic channel in another HF band deemed appropriate in the actual case;
- if no DSC distress acknowledgment is received from a coast station within 5 minutes, and no distress communication is observed going on between a coast station and the ship in distress:
  - inform a Rescue Coordination Center (RCC) via appropriate radiocommunications means;
  - transmit a DSC distress relay call.

**6.1.5 Transmission of DSC distress relay call:** In case it is considered appropriate to transmit a DSC distress relay call:

- distress relay calls on HF should be initiated manually;
- tune the transmitter(s) to the relevant DSC distress channel, following the procedures described in section 6.1.1 above (except the call is sent manually as a single call on a single frequency);
- follow the instructions for keying in or selection of call format and relevant information on the DSC equipment keyboard as described in section 1.4;
- transmit the DSC distress relay call.

**6.1.6 Acknowledgment of a HF DSC distress relay call received from a coast station:** Ships receiving a DSC distress relay call from a coast station on HF, addressed to all ships within a specified area, should NOT acknowledge the receipt of the relay alert by DSC, but by radiotelephony on the telephony distress traffic channel in the same band(s) in which the DSC distress relay call was received.

### 6.2 URGENCY:

Transmission of urgency messages on HF should normally be addressed:

- either to all ships within a specified geographical area;
- or to a specific coast station.

Announcement of the urgency message is carried out by transmission of a DSC call with category urgency on the appropriate DSC distress channel. The transmission of the urgency message itself on HF is carried out by radiotelephony or radiotelex on the appropriate distress traffic channel in the same band in which the DSC announcement was transmitted.

**6.2.1 Transmission of DSC announcement of an urgency message on HF:**

- choose the HF band considered to be the most appropriate, taking into account propagation characteristics for HF radio waves at the actual season and time of the day; the 8 MHz band may in many cases be an appropriate first choice;

- tune the HF transmitter to the DSC distress channel in the chosen HF band;
- key in or select call format for either geographical area call or individual call on the DSC equipment, as appropriate;
- in case of area call, key in specification of the relevant geographical area;
- follow the instructions for keying in or selection of relevant information on the DSC equipment keyboard as described in section 2.1, including type of communication in which the urgency message will be transmitted (radiotelephony or radiotelex);
- transmit the DSC call; and
- if the DSC call is addressed to a specific coast station, wait for DSC acknowledgment from the coast station. If acknowledgment is not received within a few minutes, repeat the DSC call on another HF frequency deemed appropriate.

**6.2.2 Transmission of the urgency message and subsequent action:**

- tune the HF transmitter to the distress traffic channel (telephony or telex) indicated in the DSC announcement;
- if the urgency message is to be transmitted using radiotelephony, follow the procedure described in section 2.1;
- if the urgency message is to be transmitted by radiotelex, the following procedure shall be used:
  - use the forward error correcting (FEC) mode unless the message is addressed to a single station whose radiotelex identity number is known;
  - commence the telex message by:
    - at least one carriage return, line feed, one letter shift;
    - the urgency signal “PAN PAN;”
    - “this is;”
    - the 9-digit identity of the ship and the call sign or other identification of the ship;
    - the text of the urgency message.

Announcement and transmission of urgency messages addressed to all HF equipped ships within a specified area may be repeated on a number of HF bands as deemed appropriate in the actual situation.

### 6.3 SAFETY:

The procedures for transmission of DSC safety announcement and for transmission of the safety message are the same as for urgency messages, described in section 6.2, except that:

- in the DSC announcement, the category SAFETY shall be used;
- in the safety message, the safety signal “SECURITE” shall be used instead of the urgency signal “PAN PAN.”

### 400L. Use of GMDSS Equipment for Routine Telecommunications

GMDSS telecommunications equipment should not be reserved for emergency use only. The IMO has issued COMSAR/Circ.17 (dated 9 March 1998) which recommends and encourages mariners to use that equipment for routine as well as safety

## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

telecommunications. The following recommendation is extracted from Circ.17:

Use of GMDSS equipment for transmission of general radiocommunications is one of the functional requirements specified in SOLAS chapter IV, regulation 4. Regular use of GMDSS equipment helps to develop operator competency and ensure equipment availability. If ships use other radiocommunication systems for the bulk of their business communications, they should adopt a regular program of sending selected traffic or test messages via GMDSS equipment to ensure operator competency and equipment availability and to help reduce the incidence of false alerts. This policy extends to all GMDSS equipment suites including Digital Selective Calling (DSC) on VHF, MF and HF, to the Inmarsat-A, -B and -C systems, and to any duplicated VHF and long-range communications facilities.

### 400M. Instructions for Canceling Inadvertent Distress Alerts

A false alert is any distress transmitted for any reason when a real distress situation does not actually exist. Most such alerts are inadvertent and can be traced to equipment problems and human error (caused by improper use of GMDSS equipment). A few, however, are deliberately transmitted as a hoax, made easier by GMDSS equipment that is not properly registered. Many are from non-GMDSS sources, especially in the 121.5 MHz frequency band.

False alerts obstruct efficient and effective SAR services and are detrimental because they:

- Cause delays which may cost lives and prolong or worsen human suffering.
- Adversely affect mariner safety.
- Waste limited resources.
- Erode the confidence of both mariners and SAR personnel.
- Divert SAR facilities, making them less available should a real distress situation arise.
- Congest and drive up the costs of communications.

The following instructions, extracted from IMO Resolution A.814(19), are for canceling an inadvertent distress alert:

#### – DIGITAL SELECTIVE CALLING:

##### – VHF:

- Switch off the transmitter immediately (this applies when the false alert is detected during transmission);
- Switch equipment on and set to Channel 16;
- Make broadcast to “All Stations” giving name of vessel, call sign and DSC number, and cancel the false distress alert.

Example:

All Stations, All Stations, All Stations

This is NAME, CALL SIGN, DSC NUMBER, POSITION.

Cancel my distress alert of DATE, TIME UTC.

=Master, NAME, CALL SIGN, DSC NUMBER, DATE, TIME UTC

##### –MF

- Switch off the transmitter immediately (this applies when the false alert is detected during transmission);
- Switch equipment on and tune for radiotelephony transmission on 2182 kHz;
- Make broadcast to “All Stations” giving name of vessel, call sign and DSC number, and cancel the false distress alert.

Example:

All Stations, All Stations, All Stations,

This is NAME, CALL SIGN, DSC NUMBER, POSITION.

Cancel my distress alert of DATE, TIME UTC.

=Master, NAME, CALL SIGN, DSC NUMBER, DATE, TIME UTC

##### –HF:

- As for MF but the alert must be canceled on all the frequency bands in which it was transmitted: the transmitter should be tuned consecutively to the radiotelephony distress frequencies in the 4, 6, 8, 12 and 16 MHz bands, as necessary.

#### – INMARSAT-C:

- Notify the appropriate Rescue Coordination Center (RCC) to cancel the alert by sending a distress priority message via the same CES through which the false distress alert was sent.

Example:

This is NAME, CALL SIGN, IDENTITY NUMBER, POSITION.

Cancel my Inmarsat-C distress alert of DATE, TIME UTC.

=Master +

#### – EPIRBs:

- If, for any reason, an EPIRB is activated accidentally, the ship should contact the nearest coast station or an appropriate coast earth station or RCC and cancel the distress alert.

NOTE: Keep the EPIRB activated until an appropriate RCC can be contacted to cancel the alert. (This reduces incomplete alerts and uncertainty associated with why an EPIRB signal ceased.)

Notwithstanding the above, a ship may use any means available to them to inform the appropriate authorities that a false alert has been transmitted and should be canceled. No action will normally be taken against any ship or mariner for reporting and canceling a false distress alert. However, in view of the serious consequences of false alerts, and the strict ban on their transmission, Governments may prosecute in cases of repeated violation.

The following guidelines, extracted from IMO Resolution A.814(19), are recommended for reducing the chance of a false distress alert aboard ship:

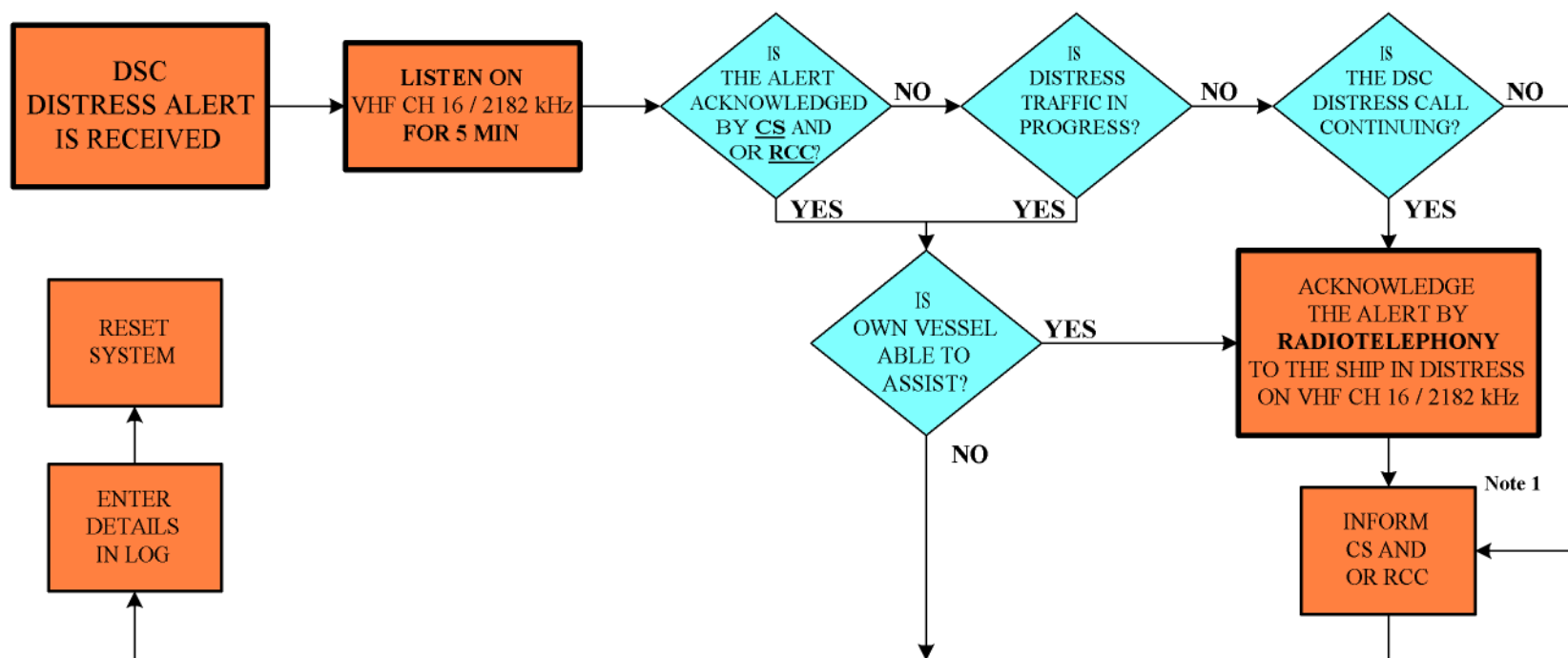
## **DISTRESS, EMERGENCY, AND SAFETY TRAFFIC**

- Ensure that all GMDSS certificated personnel responsible for sending a distress alert have been instructed about, and are competent to operate, the particular radio equipment on the ship.
  - Ensure that the person(s) responsible for communication during distress incidents give the necessary instructions and information to all crew members on how to use GMDSS equipment to send a distress alert.
  - Ensure that as part of each abandon ship drill, instruction is given on how emergency equipment should be used to provide GMDSS functions.
  - Ensure that GMDSS equipment testing is only undertaken under the supervision of the person responsible for communications during distress incidents.
  - Ensure that GMDSS equipment testing or drills are never allowed to cause false distress alerts.
  - Ensure that coded identities of satellite EPIRBs, which are used by SAR personnel responding to emergencies, are properly registered in a database accessible 24 hours a day or automatically provided to SAR authorities (Masters should confirm that their EPIRBs have been registered with such a database, to help SAR services identify the ship in the event of distress and rapidly obtain other information which will enable them to respond appropriately (See sec. 400F)).
  - Ensure that EPIRB, Inmarsat and DSC registration data is immediately updated if there is any change in information relating to the ship such as owner, name or flag, and that the necessary action is taken to reprogram the ship's new data in the GMDSS equipment concerned.
  - Ensure that, for new ships, positions for installing EPIRBs are considered at the earliest stage of ship design and construction.
  - Ensure that satellite EPIRBs are carefully installed in accordance with the manufacturers' instructions and using qualified personnel (sometimes satellite EPIRBs are damaged or broken due to improper handling or installation. They must be installed in a location that will enable them to float free and automatically activate if the ship sinks. Care must be taken to ensure that they are not tampered with or accidentally activated. If the coding has to be changed or the batteries serviced, manufacturers' requirements must be strictly followed. There have been cases where EPIRB lanyards were attached to the ship so that the EPIRB could not float free; lanyards are only to be used by survivors for securing the EPIRB to a survival craft or person in the water).
  - Ensure that EPIRBs are not activated if assistance is already immediately available (EPIRBs are intended to call for assistance if the ship is unable to obtain help by other means, and to provide position information and homing signals for SAR units).
  - Ensure that, if a distress alert has been accidentally transmitted, the ship makes every reasonable attempt to communicate with the RCC by any means to cancel the false distress alert using the instructions given above.
  - Ensure that, if possible, after emergency use, the EPIRB is retrieved and deactivated.
  - Ensure that when an EPIRB is damaged and needs to be disposed of, if a ship is sold for scrap, or if for any other reason a satellite EPIRB will no longer be used, the satellite EPIRB is made inoperable, either by removing its battery and, if possible, returning it to the manufacturer, or by demolishing it.
- NOTE: If the EPIRB is returned to the manufacturer, it should be wrapped in tin foil to prevent transmission of signals during shipment.





# ACTIONS BY SHIPS UPON RECEPTION OF **VHF / MF DSC** DISTRESS ALERT



## REMARKS:

Note 1: Appropriate or relevant RCC and/or Coast Station shall be informed accordingly. If further DSC alerts are received from the same source and the ship in distress is beyond doubt in the vicinity, a DSC acknowledgment may, after consultation with an RCC or Coast Station, be sent to terminate the call.

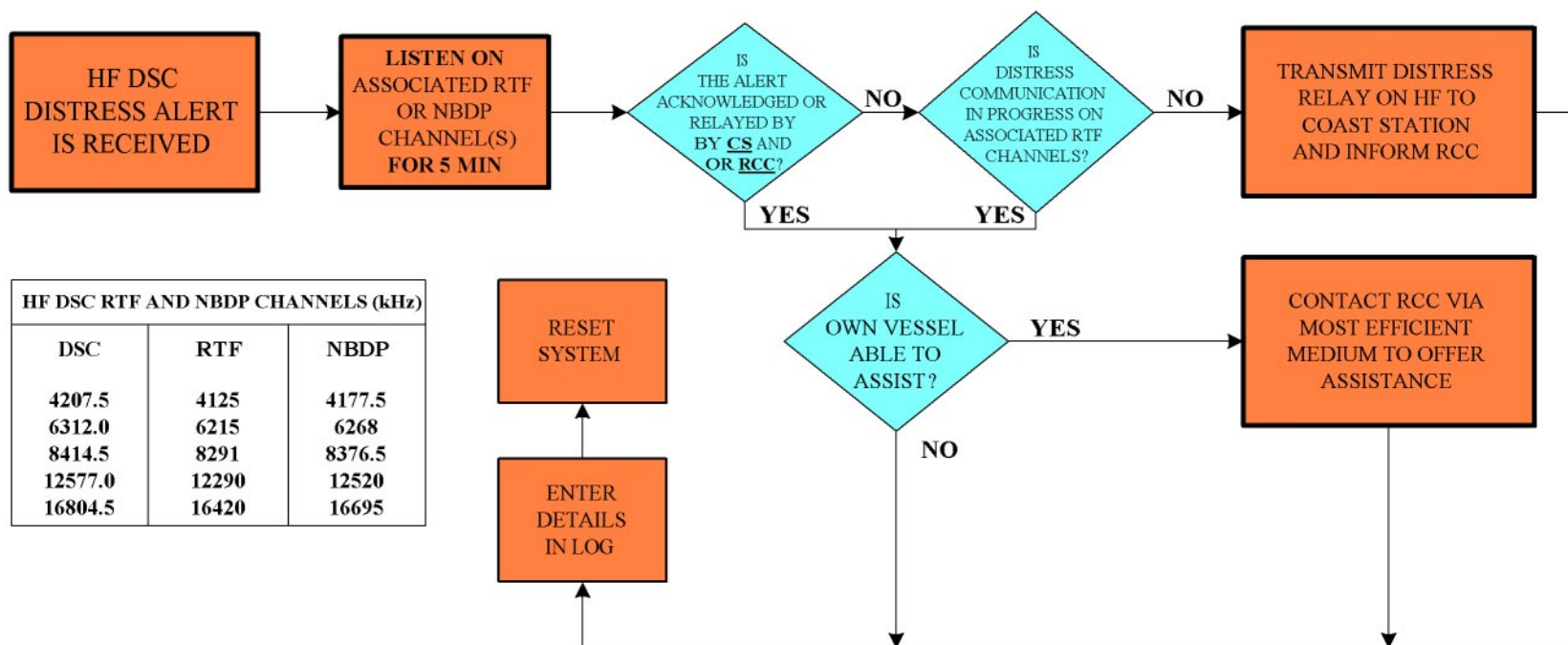
Note 2: In no case is a ship permitted to transmit a DSC distress relay call on receipt of a DSC distress alert on either VHF Channel 70 or MF Channel 2187.5 kHz.

CS = Coast Station

RCC = Rescue Coordination Center



# ACTIONS BY SHIPS UPON RECEPTION OF **HF DSC** DISTRESS ALERT



## REMARKS:

Note 1: If it is clear the ship or persons in distress are not in the vicinity and/or other crafts are better placed to assist, superfluous communications which could interfere with search and rescue activities are to be avoided. Details should be recorded in the appropriate logbook.

Note 2: The ship should establish communications with the station controlling the distress as directed and render such assistance as required and appropriate.

Note 3: Distress relay calls should be initiated manually.

CS = Coast Station

RCC = Rescue Coordination Center



# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

## LIST OF OPERATIONAL VHF DSC COAST STATIONS FOR SEA AREAS A1

(Extracted from ANNEX 2 of the IMO GMDSS Master Plan)

NAV/MET Area	Country	VHF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Range (NM)	
I	Belgium	Antwerpen	002050485	51-13N 04-23E	25	Oostende
		Oostende	002050480	51-11N 02-48E	25	
	Denmark	Lyngby	002191000	-	-	SOK, Aarhus
		København		55-41N 12-36E	29	
		Vejby		56-04N 12-07E	30	
		Roesnaes		55-44N 10-56E	35	
		Ånholt		56-42N 11-35E	28	
		Fornaes		56-26N 10-56E	32	
		Vejle		55-40N 09-30E	42	
		Als		54-57N 09-33E	41	
		Svendborg		55-01N 10-37E	20	
		Karleby		54-52N 11-11E	36	
		Mern		55-03N 11-59E	45	
		Aarsballe		55-08N 14-52E	42	
		Laesoe		57-17N 11-03E	34	
		Frejlev		57-00N 09-49E	44	
		Blåvand		55-33N 08-06E	33	
		Skagen		57-44N 10-34E	29	
		Hirtshals		57-31N 09-57E	31	
		Hanstholm		57-06N 08-39E	34	
		Bovbjerg		56-31N 08-10E	34	
		Torshavn (Færoes)	002311000	-	-	MRCC Torshavn
		Torshavn		62-01N 06-49W	56	
		Fugloy		62-20N 06-19W	68	
		Mykines		62-06N 07-35W	64	
		Suderoy		61-25N 06-44W	57	
	Estonia	Tallinn	002761000	59-24N 24-40E	20	MRCC Tallinn
		Toila		59-25N 27-31E	30	
		Eisma		59-33N 26-17E	30	
		Aabla		59-35N 25-31E	30	
		Merevälja		59-30N 24-51E	30	
		Suurupi		59-28N 24-23E	30	
		Dirhami		59-12N 23-30E	30	
		Köpu		58-55N 22-12E	35	
		Orissaare		58-34N 23-04E	35	
		Undva		58-31N 21-56E	30	
		Torgu		57-59N 22-05E	28	
		Ruhnu		57-48N 23-15E	28	
		Töstamaa		58-18N 23-59E	30	
	Finland	Turku	002300230	-	-	MRCC Turku
		Kemi	002303000	65-49N 24-32E	30	MRSC Vaasa
		Hailuoto		65-02N 24-36E	27	

# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

NAV/MET Area	Country	VHF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Range (NM)	
I	Finland (cont.)	Kalajoki	002303000	64-18N 24-11E	47	MRSC Vaasa
		Kokkola		63-50N 23-09E	34	
		Raippaluoto		63-22N 21-19E	32	
		Kristiinankaupunki	002301000	62-16N 21-24E	36	MRCC Turku
		Pori		61-36N 21-27E	16	
		Rauma		61-08N 21-33E	28	
		Uusikaupunki		60-49N 21-26E	32	
		Geta		60-23N 19-51E	38	
		Brandö		60-25N 21-03E	25	
		Järsö		60-01N 20-00E	36	
		Korppoo		60-10N 21-33E	30	
		Naantali		60-27N 22-03E	32	
		Utö	002302000	59-47N 21-22E	23	MRSC Helsinki
		Hanko		59-50N 22-56E	26	
		Porkkala		59-59N 24-26E	30	
		Santahamina/Helsinki		60-09N 25-02E	30	
		Sondby		60-16N 25-51E	26	
		Kotka		60-29N 26-53E	29	
		Violahti		60-36N 27-50E	32	
	France	Gris Nez (CROSS)	002275100	50-52N 01-35E	23	MRCC Gris Nez
		Dunkerque		51-03N 02-21E	22	
		Saint Frioux		50-36N 01-38E	38	
		L' Ailly		49-55N 00-57E	28	
		Jobourg (CROSS)	002275200	49-41N 01-54W	42	MRCC Jobourg
		Antifer		49-41N 00-10E	33	
		Ver-sur-Mer		49-20N 00-31W	27	
		Gatteville		49-42N 01-16W	26	
		Granville		48-50N 01-37W	26	
		Roches Douvres		49-06N 02-49W	24	
		Corsen (CROSS)	002275300	48-25N 04-47W	27	MRCC Corsen
		Cap Frehel		48-41N 02-19W	28	
		Ile de Batz		48-45N 04-01W	27	
		Stiff Ouessant		48-28N 05-03W	34	
		Bodic		48-48N 03-05W	25	
		Pointe du Raz		48-02N 04-44W	24	
	Germany	Bremen Rescue Radio	002111240	53-05N 08-48E	25	MRCC Bremen
		Rügen		54-21N 13-45E	27	
		Arkona		54-35N 13-37E	31	
		Darss		54-24N 12-27E	30	
		Rostock		54-10N 12-06E	33	
		Kiel		54-18N 10-07E	37	
		Lübeck		54-13N 10-43E	46	
		Flensburg		54-44N 09-30E	29	
		Norddeich		53-34N 07-06E	24	

# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

NAV/MET Area	Country	VHF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Range (NM)	
I	Germany (cont.)	Cuxhaven	002111240	53-50N 08-39E	24	MRCC Bremen
		Helgoland		54-11N 07-53E	33	
		Sylt		54-55N 08-18E	28	
		Eiderstedt		54-20N 08-47E	24	
		Hamburg		53-33N 09-58E	44	
	Ireland	MRCC Dublin	002500300	-	-	MRCC Dublin
		Dublin		53-23N 06-04W	40	
		Carlingford		54-04N 06-19W	40	
		Wicklow Head		52-58N 06-00W	30	
		Rosslare		52-19N 06-34W	44	
		Mine Head		52-00N 07-35W	30	
		MRSC Valentia	002500200	-	-	MRSC Valentia
		Cork		51-51N 08-29W	40	
		Bantry		51-38N 10-00W	60	
		Valentia		51-52N 10-21W	54	
		Shannon		52-31N 09-36W	50	
		MRSC Malin Head	002500100	-	-	MRSC Malin Head
		Clifden		53-30N 09-56W	50	
		Belmullet		54-16N 10-03W	25	
		Glen Head		54-44N 08-40W	47	
		Malin Head		55-22N 07-16W	49	
	Latvia	Riga Rescue Radio	002750100	57-02N 24-05E	20	MRCC Riga
		Vitrupe		57-36N 24-23E	25	
		Mersrags		57-22N 23-07E	25	
		Kolka		57-45N 22-35E	20	
		Jaunupe		57-32N 21-41E	20	
		Uzava		57-13N 21-26E	20	
		Akmenrags		56-50N 21-03E	20	
		Jurmalsciems		56-18N 20-59E	20	
	Lithuania	Klaipeda Rescue	002770330	55-43N 21-06E	18	MRCC Klaipeda
		Nida		55-18N 20-59E	24	
		Shventoji		56-01N 21-05E	20	
	Netherlands	Netherlands Coast Guard	002442000	-	-	JRCC Den Helder
		Woensdrecht		51-26N 04-20E	25	
		Westkappelle		51-32N 03-27E	25	
		Renesse		51-44N 03-49E	25	
		Scheveningen		52-06N 04-15E	25	
		Schoorl		52-43N 04-39E	25	
		Den Helder		52-57N 04-47E	25	
		West Terschelling		53-21N 05-13E	25	
		Schiermonnikoog		53-29N 06-09E	25	
		Appingedam		53-20N 06-52E	25	
		Kornwerderzand		53-04N 05-20E	25	

# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

NAV/MET Area	Country	VHF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Range (NM)	
I	Netherlands (cont.)	Hoorn	002442000	52-39N 05-06E	25	JRCC Den Helder
		Wezep		52-27N 06-00E	25	
	Norway	Tjøme	002570100	-	-	MRCC Stavanger
		Halden		59-11N 11-26E	53	
		Oslo		59-59N 10-40E	62	
		Drammen		59-40N 10-26E	24	
		Tjøme		59-05N 10-25E	30	
		Porsgrunn		59-14N 09-42E	66	
		Risør		58-43N 09-12E	35	
		Arendal		58-27N 08-45E	36	
		Kristiansand		58-04N 07-59E	36	
		Rogaland	002570300	-	-	MRCC Stavanger
		Lindesnes		58-01N 07-04E	40	
		Farsund		58-04N 06-45E	29	
		Storefjell		58-09N 06-43E	52	
		Bjerkreim		58-38N 05-58E	66	
		Stavanger		58-56N 05-43E	40	
		Bokn		59-13N 05-26E	50	
		Haugesund		59-25N 05-20E	47	
		Valhall (Rig)		56-17N 03-24E	30	
		Ekofisk (Rig)		56-32N 03-13E	30	
		Ula (Rig)		57-07N 02-51E	30	
		Draupner (Rig)		58-11N 02-28E	30	
		Sleipner A (Rig)		58-22N 01-54E	30	
		Stord		59-52N 05-30E	74	
		Sotra		60-19N 05-07E	53	
		Bergen		60-25N 05-22E	65	
		Lindas		60-35N 05-20E	59	
		Grimo		60-24N 06-40E	69	
		Oseberg (Rig)		60-30N 02-50E	30	
		Florø	002570500	-	-	MRCC Stavanger
		Gulen		61-02N 05-09E	73	
		Sogndal		61-10N 07-07E	93	
		Kinn		61-34N 04-46E	52	
		Bremanger		61-52N 05-00E	74	
		Raudeberg		62-00N 05-09E	38	
		Sagtennene		61-54N 06-07E	85	
		Snorre (Rig)		61-27N 02-09E	31	
		Gullfaks (Rig)		61-11N 02-11E	30	
		Nerlandshorn		62-21N 05-33E	59	
		Hjørunganes		62-21N 06-07E	19	
		Aksla		62-29N 06-12E	41	
		Gamlemsveten		62-35N 06-19E	80	
		Orskogfjellet		62-31N 06-52E	69	



# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

NAV/MET Area	Country	VHF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Range (NM)	
I	Norway (cont.)	Hellesylt	002570500	62-08N 06-56E	42	MRCC Stavanger
		Geiranger		62-07N 07-10E	57	
		Molde		62-45N 07-08E	59	
		Reinsfjell		62-57N 07-56E	84	
		Kristiansund		63-07N 07-42E	34	
		Litlefonni		63-23N 08-43E	56	
		Forbordsfjell		63-32N 10-54E	66	
		Mosvik		63-46N 10-58E	55	
		Kopparen		63-48N 09-45E	64	
		Yttervåg		64-18N 10-18E	34	
		Namsos		64-27N 11-32E	58	
		Rørvik		64-53N 11-14E	43	
		Draugen (Rig)		64-21N 07-47E	30	
		Åsgård B (Rig)		65-07N 06-47E	30	
		Heidrun (Rig)		65-20N 07-19E	30	
		Bodø	002570700	-	-	MRCC Bodø
		Vega		65-38N 11-54E	75	
		Horva		66-01N 12-49E	57	
		Mo i Rana		66-12N 13-45E	71	
		Traenfjord		66-32N 12-49E	53	
		Meløy		66-51N 13-38E	50	
		Rønvikfjell/Bodø		67-18N 14-27E	41	
		Fornesfjell		67-26N 15-27E	68	
		Værøy		67-40N 12-38E	59	
		Steigen		67-50N 15-00E	77	
		Fredvang		68-06N 13-11E	21	
		Hagskaret		68-10N 13-42E	36	
		Kvalnes		68-21N 13-58E	40	
		Raften/Svolvaer		68-24N 15-07E	18	
		Storheia/Hadsel		68-33N 14-53E	61	
		Myre/Vesteralen		68-57N 15-01E	30	
		Stamnes		68-49N 15-29E	13	
		Andenes		69-17N 16-01E	54	
		Lødingen		68-24N 15-58E	13	
		Harstad		68-48N 16-31E	36	
		Veggen/Narvik		68-28N 17-10E	48	
		Kistefjell		69-18N 18-08E	85	
		Tromsø		69-39N 18-57E	36	
		Tønsnes		69-43N 19-08E	47	
		Hillesoy		69-39N 18-00E	41	
		Bjørnøya		74-31N 19-01E	40	
		Vardø	002570800	-	-	MRCC Bodø
		Torsvag		70-15N 19-30E	23	
		Trolltind		70-04N 20-26E	78	

**DISTRESS, EMERGENCY, AND SAFETY TRAFFIC**

NAV/MET Area	Country	VHF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Range (NM)	
I	Norway (cont.)	Skjervoy	002570800	70-01N 20-59E	37	MRCC Bodø
		Helligfjell		70-07N 22-56E	63	
		Fuglen		70-39N 21-58E	55	
		Tyven		70-38N 23-42E	57	
		Havoysund		71-00N 24-36E	49	
		Honningsvåg		70-59N 25-54E	56	
		Oksen		70-58N 27-21E	51	
		Mehamn		71-03N 28-07E	49	
		Berlevåg		70-52N 29-05E	40	
		Tana		70-28N 28-13E	65	
		Båtsfjord		70-40N 29-42E	49	
		Vardø		70-20N 31-02E	40	
		Varangfjord		70-05N 29-49E	41	
		Kirkenes		69-45N 30-08E	44	
		Svalbard	002570900	-	-	MRCC Bodø
		Isfjord		78-02N 13-40E	23	
		Longyearbyen		78-15N 15-24E	21	
		Kongsvegpasset		78-45N 13-30E	78	
	Poland	Witowo	002610210	-	-	MRCC Gdynia
		Swinoujście		53-55N 14-15E	20	
		Grzywacz		53-57N 14-30E	35	
		Kolowo		53-20N 14-41E	40	
		Kolorzeg		54-11N 15-33E	25	
		Barzowice		54-28N 16-30E	30	
		Rowakol		54-39N 17-13E	35	
		Rozewie		54-50N 18-20E	25	
		Okseywie		54-33N 18-32E	30	
		Krynica Morska		54-24N 19-30E	20	
	Russian Federation	Saint Petersburg	002733700	59-53N 30-13E	27	MRCC Saint Petersburg
		Primorsk		60-20N 28-43E	30	
		Vyborg	002734415	60-42N 28-43E	17.5	MRSC Kaliningrad
		Kaliningrad	002734417	54-58N 19-59E	26	
		Murmansk	002734420	68-58N 33-01E	18	MRCC Murmansk
		Arkhangel'sk	002734414	64-32N 40-32E	25.6	MRSC Arkhangel'sk
		Mudyug		64-51N 40-17E	24.5	
	Sweden	Göteborg	002653000	-	-	MRCC Göteborg
		Umeå		63-50N 19-49E	59	
		Väddö		59-58N 18-50E	37	
		Svenska Högarna		59-27N 19-30E	21	
		Stockholm		59-18N 18-10E	50	
		Skellefteå		64-46N 20-57E	49	
		Seskarö		65-44N 23-44E	24	
		Luleå		65-32N 21-55E	36	
		Mjällom		62-59N 18-23E	48	

**DISTRESS, EMERGENCY, AND SAFETY TRAFFIC**

NAV/MET Area	Country	VHF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Range (NM)	
I	Sweden (cont.)	Härnösand	002653000	62-36N 17-55E	40	MRCC Göteborg
		Sundsvall		62-24N 17-28E	40	
		Hudiksvall		61-42N 16-51E	60	
		Gävle		60-38N 17-08E	42	
		Öregrund		60-30N 18-24E	30	
		Västerås		59-38N 16-24E	45	
		Södertälje		59-13N 17-37E	35	
		Torö		58-49N 17-51E	31	
		Norrköping		58-40N 16-28E	49	
		Gotska Sandön		58-23N 19-14E	27	
		Fårö		57-52N 19-00E	30	
		Visby		57-35N 18-22E	48	
		Hoburgen		56-56N 18-13E	30	
		Västervik		57-43N 16-26E	50	
		Borgholm		56-51N 16-42E	30	
		Ölands Södra		56-14N 16-27E	28	
		Karlskrona		56-14N 15-39E	32	
		Kivik		55-40N 14-09E	44	
		Trelleborg		55-28N 13-16E	36	
		Helsingborg		56-02N 12-41E	32	
		Falkenberg		56-50N 12-41E	39	
		Göteborg		57-41N 12-03E	47	
		Hunnebostrand		58-25N 11-25E	34	
		Strömstad		58-55N 11-10E	30	
		Vänersborg		58-19N 12-16E	27	
		Kinnekuile		58-36N 13-24E	48	
		Karlsborg (Vättern)		58-40N 14-34E	38	
	United Kingdom	Falmouth	002320014	50-08N 05-07W	26	MRCC Falmouth
		Lizard		49-59N 05-12W	27	
		Scillies		49-56N 06-18W	26	
		Lands End		50-08N 05-39W	44	
		St. Ives		50-13N 05-28W	19	
		Trevose Head		50-33N 05-02W	30	
		Bude		50-49N 04-33W	20	
		Brixham	002320013	-	-	MRSC Brixham
		Rame Head		50-19W 04-13W	30	
		East Prawle		50-13N 03-42W	34	
		Dartmouth		50-21N 03-35W	31	
		Berry Head		50-24N 03-29W	27	
		Portland	002320012	-	-	MRSC Portland
		Grove		50-33N 02-25W	33	
		Bincleaves		50-36N 02-27W	16	
		Hengistbury Head		50-43N 01-46W	21	
		Beer Head		50-41N 03-06W	35	

# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

NAV/MET Area	Country	VHF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Range (NM)	
I	United Kingdom (cont.)	Solent	002320011	-	-	MRSC Solent
		Boniface (Tx)		50-36N 01-12W	44	
		Stenbury (Rx)		50-37N 01-14W	44	
		Selsey Bill		50-44N 00-48W	19	
		Newhaven		50-47N 00-03W	27	
		Guernsey (Channel Islands)	002320064	49-26N 02-36W	50	
		Jersey Radio (Channel Islands)	002320060	49-11N 02-14W	35	
		Dover (Rx)	002320010	51-08N 01-21E	33	MRCC Dover
		West Hougham (Tx)		51-07N 01-15E	45	
		Fairlight		50-52N 00-40E	34	
		North Foreland		51-22N 01-25E	25	
		Thames	002320009	51-52N 01-16E	18	MRSC Thames
		Shoeburyness		51-31N 00-46E	17	
		Bradwell		51-44N 00-53E	16	
		Bawdsey		52-00N 01-25E	24	
		Yarmouth	002320008	52-36N 01-42E	20	MRCC Yarmouth
		Lowestoft		52-29N 01-42E	19	
		Trimingham		52-55N 01-20E	30	
		Langham		52-57N 00-57E	24	
		Skegness		53-09N 00-21E	18	
		Trusthorpe		53-19N 00-16E	23	
		Humber	002320007	-	-	MRSC Humber
		Easington		53-39N 00-06E	25	
		Flamborough		54-08N 00-06W	26	
		Whitby		54-29N 00-36W	30	
		Hartlepool		54-42N 01-10W	19	
		Cullercoats		55-04N 01-28W	25	
		Newton		55-31N 01-37W	24	
		Forth	002320005	56-17N 02-35W	21	MRSC Forth
		St. Abbs		55-54N 02-12W	42	
		Craigkelly		56-04N 03-14W	49	
		Inverbervie		56-51N 02-16W	37	
		Aberdeen	002320004	-	-	MRCC Aberdeen
		Gregness		57-08N 02-03W	25	
		Peterhead		57-31N 01-46W	19	
		Windy Head		57-39N 02-14W	45	
		Banff		57-38N 02-31W	33	
		Thrumster		58-24N 03-07W	39	
		Rosemarkie		57-38N 04-05W	43	
		Foyers		57-14N 04-31W	44	
		Noss Head		58-29N 03-03W	22	
		Dunnet Head		58-40N 03-22W	30	

# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

NAV/MET Area	Country	VHF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Range (NM)	
I	United Kingdom (cont.)	Ben Tongue	002320004	58-30N 04-24W	50	MRCC Aberdeen
		Durness		58-34N 04-44W	26	
		Shetland	002320001	60-09N 01-08W	26	MRSC Shetland
		Wideford Hill		58-59N 03-01W	44	
		Compass Head		59-52N 01-16W	33	
		Fitful Head		59-54N 01-23W	47	
		Collafirth Hill		60-32N 01-23W	46	
		Saxa Vord		60-50N 00-50W	44	
		Stornoway	002320024	-	-	MRSC Stornoway
		Butt of Lewis		58-28N 06-14W	24	
		Forsnaval		58-13N 07-00W	44	
		Port Naguran		58-15N 06-10W	23	
		Rodel		57-45N 06-57W	29	
		Clettraval		57-37N 07-27W	37	
		Scoval		57-27N 06-42W	48	
		Skriaig		57-23N 06-14W	57	
		Barra		57-01N 07-30W	30	
		Melvaig		57-51N 05-47W	48	
		Arisaig		56-55N 05-50W	35	
		Clyde	002320022	55-58N 04-48W	20	MRCC Clyde
		Pulpitt Hill		56-19N 05-21W	35	
		Torosay		56-27N 05-44W	58	
		Glengorm		56-38N 06-08W	47	
		Tiree		56-30N 06-57W	35	
		Law Hill		55-42N 04-50W	41	
		Rhu Stafnish		55-22N 05-32W	44	
		Kilchiaran		55-46N 06-27W	37	
		South Knapdale		55-55N 05-28W	62	
		Belfast	002320021	-	-	MRSC Belfast
		Orlock Head		54-40N 05-35W	23	
		Slieve Martin		54-06N 06-10W	61	
		Black Mountain		54-35N 06-01W	62	
		West Torr		55-12N 06-05W	33	
		Limavady		55-06N 06-53W	53	
		Liverpool	002320019	53-30N 03-03W	17	MRSC Liverpool
		Moel-Y-Parc		53-13N 03-19W	57	
		Langthwaitet		54-02N 02-46W	37.5	
		Snaefell		54-16N 04-28W	70	
		Spanish Head		54-04N 04-46W	37	
		Caldbeck		54-44N 03-03W	65	
		Holyhead	002320018	53-19N 04-38W	17	MRSC Holyhead
		Rhiw		52-50N 04-38W	51	
		South Stack		53-18N 04-42W	38	
		Great Orme		53-20N 03-51W	43	

**DISTRESS, EMERGENCY, AND SAFETY TRAFFIC**

NAV/MET Area	Country	VHF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Range (NM)	
I	United Kingdom (cont.)	Milford Haven	002320017	-	-	MRSC Milford Haven
		Tenby		51-42N 04-41W	29	
		St. Ann's Head		51-40N 05-11W	33	
		Dinas Head		52-00N 04-54W	43	
		Blaenplwyf		52-22N 04-06W	50	
		Swansea	002320016	-	-	MRCC Swansea
		Gower		51-34N 04-17W	27	
		Mumbles Hill		51-34N 03-59W	29	
		St. Hilary		51-27N 03-24W	50	
		Severn Bridge		51-37N 02-39W	33	
		Combe Martin		51-10N 04-03W	47	
		Ilfracombe		51-13N 04-05W	27	
		Hartland Point		51-01N 04-31W	35	
II	Benin	Cotonou	006100001	06-21N 02-26E	29	
	France	Etel (CROSS)	002275000	47-40N 03-12W	26	MRCC Etel
		Penmarc'h		47-48N 04-22W	28	
		Groix		47-39N 03-30W	24	
		Belle Ile		47-19N 03-14W	27	
		Kerrouault		47-27N 02-30W	33	
		Armandeche		46-42N 01-55W	21	
		Ile D'Yeu		46-43N 02-23W	24	
		Soulac		45-32N 01-06W	24	
		Chassiron		46-03N 01-25W	22	
		Cap Ferret		44-38N 01-15W	22	
		Contis		43-48N 01-18W	23	
		Hourtin		45-09N 01-10W	23	
		Biarritz		43-32N 01-32W	26	
	Ghana	Tema	006270000	-	-	Harbor Master's Office Accra
		Winneba		05-21N 00-37W	60	
		Aflao		06-07N 01-11W	60	
		Tema		05-38N 00-00	60	
		Cape Coast		05-07N 01-15W	60	
		Half Assini		05-03N 02-53W	60	
		Takoradi		04-54N 01-45W	60	
		Axim		04-52N 02-14W	60	
		Ada		05-47N 00-38W	60	
	Spain	Bilbao (CCR)	002241021	-	-	MRCC Bilbao
		Pasajes		43-17N 01-55W	35	
		Bilbao		43-16N 03-02W	35	
		Santander		43-25N 03-36W	35	
		Cabo Penas		43-26N 05-35W	35	
		Navia		43-25N 06-50W	35	

# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

NAV/MET Area	Country	VHF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Range (NM)	
II	Spain (cont.)	MRCC Bilbao*	002240996	43-21N 03-02W	30	MRCC Bilbao
		MRSC Santander*	002241009	43-28N 03-43W	30	MRSC Santander
		MRCC Gijon*	002240997	43-34N 05-42W	30	MRCC Gijon
		MRSC Coruna*	002240992	-	-	MRSC Coruna
		Cabo Priorino		43-28N 08-20W	30	
		Coruna		43-22N 08-23W	30	
		Coruna (CCR)	002241022	-	-	MRCC Finisterre
		Cabo Ortegal		43-35N 07-47W	35	
		Coruna		43-10N 08-18W	35	
		Vigo		42-10N 08-41W	35	
		La Guardia		41-53N 08-52W	35	
		Finisterre		42-55N 09-17W	35	
		MRCC Finisterre*	002240993	-	-	MRCC Finisterre
		Monte Beo		43-20N 08-50W	40	
		Finisterre		42-42N 08-59W	40	
		Monte Xastas		43-02N 09-16W	40	
		Monte Taume		42-36N 09-03W	40	
		MRSC Vigo*	002240998	42-14N 08-43W	30	MRSC Vigo
		MRSC Huelva*	002241012	37-14N 06-57W	30	MRSC Huelva
		MRSC Cadiz*	002241011	36-32N 06-18W	30	MRSC Cadiz
		MRCC Tarifa*	002240994	-	-	MRCC Tarifa
		Cape Trafalgar		36-12N 06-01W	30	
		Tarifa		36-01N 05-35W	30	
		Punta Almina		35-54N 05-17W	30	
		MRSC Algeciras*	002241001	36-07N 05-26W	30	MRSC Algeciras
		Malaga (CCR)	002241023	-	-	MRCC Tarifa
		Huelva		37-13N 07-07W	35	MRSC Huelva
		Cadiz		36-32N 06-18W	35	MRSC Cadiz
		Tarifa		36-03N 05-33W	35	MRCC Tarifa
		Tenerife (CCR)	002241025	-	-	MRCC Las Palmas
		Arrecife		29-08N 13-31W	35	
		Fuerteventura		28-33N 13-55W	35	
		Las Palmas		27-58N 15-33W	35	
		Gomera		28-06N 17-06W	35	
		Hierro		27-48N 17-55W	35	
		Tenerife		28-27N 16-23W	35	
		La Palma		28-39N 17-50W	35	
		MRCC Tenerife*	002241007	28-29N 16-14W	30	
		MRCC Las Palmas*	002240995	-	-	MRCC Las Palmas
		Las Palmas		28-09N 15-25W	30	
		La Isleta		28-10N 15-25W	30	

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# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

NAV/MET Area	Country	VHF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Range (NM)	
III	Bulgaria	Varna	002070810	43-15N 27-57E	52	MRCC Varna
		Bourgas		42-29N 27-28E	45	
	Croatia	Split	002380100	-	-	MRCC Rijeka
		Savudrija		45-29N 13-29E	30	
		Ucka		45-17N 14-12E	90	
		Kamenjak		44-46N 14-47E	50	
		Susak		44-31N 14-18E	50	
		Celavac		44-16N 15-47E	80	
		Ugljan		44-04N 15-10E	40	
		Labistica		43-35N 16-13E	80	
		Vidova Gora		43-17N 16-37E	50	
		Hum (Otok Vis)		43-01N 16-07E	70	
		Uljenje		42-54N 17-29E	70	
		Srd		42-39N 18-07E	50	
		Hum (Otok Lastovo)		42-45N 16-52E	40	
		Rijeka	002380200	45-20N 14-25E	30	
		Dubrovnik	002380300	42-39N 18-05E	30	
		MRCC Rijeka	002387010 002387020	45-19E 14-27E	15	
		MRSC Zadar	002387400 002387401	44-07N 15-13E	7	MRSC Zadar
		MRSC Sibenik	002387500 002387501	43-44N 15-54E	7	MRSC Sibenik
		MRSC Split	002387040 002387030	43-30N 16-27E	10	MRSC Split
		MRSC Dubrovnik	002387800 002387801	42-39N 18-05E	15	MRSC Dubrovnik
	Cyprus	Cyprus	002091000	-	-	RCC Larnaca
		Pissouri		34-39N 32-42E	50	
		Olympus		34-56N 32-51E	120	
		Kionia		34-55N 33-12E	100	
	Egypt	Alexandria	006221111	31-11N 28-55E	23	RCC Cairo
		Marsa Matruh		31-21N 27-14E	23	
		Ras Alhkima		31-09N 27-49E	25	
		El Dab'a		31-02N 28-28E	27	
		El' Alamein		30-51N 28-55E	25	
		Sidi Kerier		31-02N 29-39E	25	
		Rashid		31-27N 30-22E	27	
		Baltim		31-33N 31-05E	27	
		Port Said	006221113	31-15N 32-19E	21	
		Ras el Barr		31-30N 31-50E	27	
		Beir Al Abd		31-02N 33-00E	27	
		Arish		31-07N 33-48E	27	
		Ismailia		30-36N 32-16E	24	



# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

NAV/MET Area	Country	VHF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Range (NM)	
III	Egypt (cont.)	Suez	006221113	29-58N 32-33E	22	RCC Cairo
		Zhafarana		29-07N 32-39E	27	
	France	La Garde (CROSS)	002275400	43-06N 05-59E	23	MRCC La Garde
		Bear		42-31N 03-08E	30	
		Pic Neoulos		42-29N 02-57E	94	
		Agde		43-17N 03-30E	31	
		Espiguette		43-29N 04-08E	19	
		Place du Planier		43-12N 05-14E	25	
		Mont Coudon		43-10N 06-10E	72	
		La Garoupe		43-34N 07-08E	30	
		Cap Camarat		43-12N 06-40E	30	
		Pic de l'Ours		43-28N 06-54E	62	
		Aspretto (Sous CROSS)	002275420	41-55N 08-46E	30	MRCC La Garde/ MRSC Corse
		Ersa		42-58N 09-23E	64	
		Serra Di Pigno		42-52N 09-24E	83	
		Piana		42-14N 08-38E	69	
		Punta		41-57N 08-42E	75	
		Serragia		41-31N 08-59E	58	
		Conca		41-44N 09-23E	54	
	Georgia	Batumi	002130100	41-39N 41-39E	50	MRCC Georgia
		Poti	002130300	42-09N 41-39E	50	RSC Poti
	Greece	Olympia	002371000	38-01N 23-50E	-	JRCC Piraeus
		Gerania		38-00N 23-20E	98	
		Poros/Darditsa		37-30N 23-27E	73	
		Thassos		40-47N 24-43E	90	
		Sfendami		40-25N 22-31E	41	
		Thira		36-25N 25-26E	66	
		Chios		38-23N 26-03E	78	
		Kefallinia		38-08N 20-40E	107	
		Kerkyra		39-45N 19-52E	82	
		Kythira		36-09N 22-59E	52	
		Limnos		39-52N 25-04E	59	
		Sitia (Mare)		35-12N 26-06E	75	
		Mytilini		39-04N 26-21E	84	
		Parnitha		38-10N 23-44E	98	
		Petalidi		36-56N 21-52E	83	
		Pilio		39-22N 22-57E	104	
		Rodhos		36-16N 27-56E	78	
		Syros		37-27N 24-56E	57	
		Knossos		35-17N 24-53E	87	
		Patmos		37-18N 26-32E	46	
		Moustakos		35-18N 23-37E	84	
		Tsoukalas		40-23N 23-28E	68	

**DISTRESS, EMERGENCY, AND SAFETY TRAFFIC**

NAV/MET Area	Country	VHF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Range (NM)	
III	Greece (cont.)	Faistos	002371000	35-00N 25-12E	84	JRCC Piraeus
		Astypalea		36-36N 28-26E	59	
		Karpathos		35-28N 27-10E	66	
		Brochas Kritis		35-19N 25-44E	65	
		Lichada		38-52N 22-53E	60	
		Skiros		38-50N 24-30E	68	
		Andros		37-56N 24-46E	55	
		Milos		36-41N 24-23E	78	
		Aspropirgos	002391000	38-03N 23-35E	30	
	Israel	Haifa	004280001	32-49N 35-00E	50	Haifa Radio
	Italy	Roma	002470001	-	-	
		Conconello		45-40N 13-47E	38	MRSC Trieste
		Piancavallo		46-05N 12-32E	70	
		Monte Cero		45-15N 11-40E	45	MRSC Venezia
		Ravenna Bassette		44-24N 12-12E	20	MRSC Ravenna
		Forte Garibaldi		43-36N 13-31E	39	MRSC Ancona
		Monte Conero		43-33N 13-26E	60	
		Monte Secco		42-58N 13-52E	38	
		Silvi Paese		42-33N 14-05E	40	
		Porto Cervo Eliporto		41-08N 09-32E	25	MRSC Cagliari
		Monte Moro		41-06N 09-30E	40	
		Monte Limbara		40-51N 09-10E	55	
		Osilo		40-44N 08-40E	40	
		Campu Spina		39-22N 08-34E	55	
		Margine Rosso		39-13N 09-14E	19	
		Monte Serpeddi		39-22N 09-17E	55	
		Badde Urbara		40-09N 08-37E	55	
		Monte Tului		40-15N 09-35E	55	
		Monte Paradiso		42-05N 11-51E	50	MRSC Roma
		Monte Cavo		41-45N 12-42E	60	
		Formia Ascatiello		41-15N 13-36E	30	
		Monte Argentario		42-23N 11-10E	40	MRSC Livorno
		Gorgona		43-25N 09-53E	40	
		Monte Nero		43-29N 10-21E	40	
		Zoagli		44-19N 09-15E	37	MRSC Genova
		Castellaccio		44-25N 08-56E	45	
		Monte Bignone		43-52N 07-43E	50	
		Palermo	002470002	-	-	
		Monte Calvario		42-04N 14-39E	45	MRSC Ancona
		Abbate Argento		40-52N 17-17E	50	MRSC Bari
		Monte Parano		40-26N 17-25E	35	
		Monte Sardo		39-52N 18-20E	39	
		Casa D'orso		41-49N 15-59E	55	

# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

NAV/MET Area	Country	VHF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Range (NM)	
III	Italy (cont.)	Capo Colonna	002470002	39-01N 17-09E	37	MRSC Reggio Calabria
		Punta Stilo		38-26N 16-34E	26	
		Capo dell'Armi		37-57N 15-40E	31	
		Serra del Tuono		39-55N 15-50E	55	
		Ustica		38-42N 13-10E	40	MRSC Palermo
		Monte Erice		38-02N 12-35E	55	
		Pantelleria		36-46N 12-01E	70	
		Lampedusa		35-30N 12-37E	25	
		Caltabellotta		37-34N 13-13E	65	
		Gela		37-04N 14-14E	19	
		Siracusa Belvedere		37-05N 15-12E	40	MRSC Catania
		Augusta Campolato Alto		37-16N 15-12E	31	
		Forte Spuria		38-16N 15-37E	32	
		Cefalu		38-01N 13-57E	40	MRSC Palermo
		Capri		40-33N 14-15E	40	MRSC Napoli
		Napoli Posillipo		40-48N 14-11E	36	
		Varco del Salice		40-17N 15-02E	60	
	Romania	Constanta	002640570	-	-	Constanta Harbor Master
		Constanta		44-06N 28-38E	25	
		Enisala		44-51N 28-52E	44	
		Mahmudia		45-05N 29-04E	45	
		Sfintu Gheorghe		45-18N 29-34E	24	
	Russian Federation	Novorossiysk	002734411	44-41N 37-47E	26	MRCC Novorossiysk
		Doob		44-36N 37-58E	51	
		Anapa		44-50N 37-21E	52	
		Sochi		43-32N 39-51E	71	
		Taganrog		47-14N 38-56E	19	
		Temrujk		45-19N 37-13E	28	
		Tuapse	002734413	44-06N 39-02E	46	MRCC Astrakhan
		Rostov-na-Donu	002734422	47-13N 39-44E	21	
		Eisk	002734422	46-43N 38-16E	23	
		Kosa Dolgaya		46-40N 37-45E	25	
		Astrakhan (Caspian Sea)	002734419	46-30N 48-00E	22.5	
		Iskusstvennyi		45-23N 47-47E	25	
		Makhachkala	002734423	42-59N 47-30E	23	
	Serbia and Montenegro	Bar	002790001	42-03N 19-09E	35	MRCC Bar
		Obosnik	002790002	42-25N 18-37E	35	
	Slovenia	Koper	002780200	45-32N 13-59E	86	MRCC Koper
	Spain	Malaga (CCR)	002241023	-	-	MRCC Tarifa
		Malaga		36-36N 04-36W	35	
		Melilla		35-19N 02-57W	35	MRCC Almeria
		Motril		36-53N 02-48W	35	
		Cabo Gata		36-43N 02-10W	35	

# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

NAV/MET Area	Country	VHF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Range (NM)	
III	Spain (cont.)	MRCC Almeria*	002241002	-	-	MRCC Almeria
		Almeria		36-50N 02-29W	30	
		Cabo Gata		36-43N 02-11W	30	
		MRSC Cartagena*	002241003	37-35N 00-58W	30	MRSC Cartagena
		MRCC Valencia*	002241004	39-27N 00-20W	30	MRCC Valencia
		Valencia (CCR)	002241024	-	-	
		Cartagena		37-35N 00-58W	35	MRSC Cartagena
		Alicante		38-20N 00-42W	35	MRCC Valencia
		Castellon		39-52N 00-19W	35	
		Cabo de la Nao		38-43N 00-10E	35	
		Tarragona		41-21N 01-32E	35	MRSC Tarragona
		Barcelona		41-25N 02-07E	35	MRCC Barcelona
		Bagur		41-57N 03-14E	35	
		Menorca		39-59N 04-07E	35	
		Palma de Mallorca		39-44N 02-43E	35	MRCC Palma
		Ibiza		38-55N 01-16E	35	
		MRSC Castellon*	002241016	39-58N 00-01E	30	MRSC Castellon
		MRSC Tarragona*	002241006	41-06N 01-14E	30	MRSC Tarragona
		MRCC Barcelona*	002240991	41-20N 02-09E	40	MRCC Barcelona
		MRCC Palma*	002241005	-	-	MRCC Palma
		Palma		39-34N 02-39E	30	
		Cabo Cala Figuera		39-27N 02-31E	30	
	Turkey	Samsun	002712000	-	-	MRCC Ankara
		Pazar		41-08N 40-49E	60	
		Hidirnebi		40-58N 39-26E	99	
		Uçpınar		41-19N 36-06E	94	
		Dütmen		41-26N 35-28E	107	
		Inebolu		41-53N 33-43E	85	
		Zonguldak		41-23N 31-49E	67	
		Istanbul	002711000	-	-	
		Akçakoca		40-58N 31-12E	66	
		Keltepe		40-38N 30-05E	105	
		Sarköy		40-41N 27-01E	70	
		Camlica		41-01N 29-04E	45	
		Mahyadagi		41-47N 27-37E	85	
		Kayalidag		39-58N 26-38E	79	
		Akdag		38-33N 26-30E	92	
		Antalya	002713000	-	-	
		Dilektepe		37-39N 27-09E	93	
		Palamut		36-45N 27-03E	79	
		Yumrutepe		36-15N 29-27E	88	

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# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

NAV/MET Area	Country	VHF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Range (NM)	
III	Turkey (cont.)	Markiz	002713000	36-43N 30-29E	80	MRCC Ankara
		Anamur		36-02N 32-45E	61	
		Cobandede		36-31N 36-15E	108	
	Ukraine	Odessa	002723660	46-25N 30-46E	25	MRCC Odessa
		Theodosia	002723663	45-01N 35-23E	35	
		Kerch	002723659	45-21N 36-32E	25	
		Mariupol	002723650	47-03N 37-30E	23	
IV	Bermuda	Bermuda Harbor	003100001	32-23N 64-41W	30	RCC Bermuda
	Canada	Labrador	003160022	-	-	JRCC Halifax
		Nain		56-33N 61-43W	40	
		Hopedale		55-27N 60-13W	40	
		Cartright		53-44N 56-58W	40	
		Goose Bay		53-18N 60-33W	40	
		St. Anthony	003160021	51-30N 55-50W	40	
		Fox Harbor		52-22N 55-40W	40	
		L'Anse aux Meadows		51-34N 55-30W	40	
		Conche		50-54N 55-53W	40	
		Twillingate		49-41N 54-48W	40	
		Comfort Cove		49-15N 54-53W	40	
		St. John's	003160020	47-37N 52-40W	40	
		Lumsden		49-17N 53-35W	40	
		Cape Bonavista		48-42N 53-05W	40	
		Victoria		47-47N 53-17W	40	
		Placentia	003160019	-	-	
		Cape Pine		46-37N 53-32W	40	
		Cuslett		46-58N 54-09W	40	
		Freshwater Hill		47-16N 53-59W	40	
		Arnold's Cove		47-46N 54-00W	40	
		St. Lawrence		46-55N 55-23W	40	
		Fortune Head		47-04N 55-51W	40	
		Bay L'Argent		47-37N 54-52W	40	
		Hermitage		47-34N 55-57W	40	
		Port aux Basques	003160018	47-41N 59-16W	40	
		Ramea Island		47-31N 57-25W	40	
		Stephenville		48-33N 58-46W	40	
		Pinetree		48-35N 58-40W	40	
		Mount Moriah		48-58N 58-03W	40	
		Bonne Bay		49-36N 57-57W	40	
		Point Riche		50-42N 57-25W	40	
		Riviere au Renard	003160025	49-01N 64-24W	40	
		Harrington Harbor		50-30N 59-29W	40	
		La Romaine		50-13N 60-41W	40	
		Natashquan		50-09N 61-48W	40	

# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

NAV/MET Area	Country	VHF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Range (NM)	
IV	Canada (cont.)	Havre St. Pierre	003160025	50-16N 63-41W	40	JRCC Halifax
		Forillon		48-50N 64-16W	40	
		Heath Point		49-05N 61-42W	40	
		Newport		48-14N 64-48W	40	
		Carleton		48-08N 66-07W	40	
		Cap-aux-Meules		47-23N 61-52W	40	
		Sydney	003160017	46-11N 59-54W	40	
		Point Escuminac		47-04N 64-48W	40	
		North Cape		47-03N 64-00W	40	
		Cape Egmont		46-24N 64-08W	40	
		Montague		46-11N 62-40W	40	
		Cheticamp		46-35N 60-59W	40	
		Cape North		47-01N 60-26W	40	
		Kilkenny Lake		46-13N 60-10W	40	
		St. Columba		46-00N 60-51W	40	
		Halifax	003160016	-	-	
		Fox Island		45-20N 61-05W	40	
		Ecum Secum		44-58N 62-09W	40	
		Shannon Hill		44-41N 63-37W	40	
		Ketch Harbor		44-28N 63-37W	40	
		Kingsburg		44-17N 64-17W	40	
		Saint John	003160015	45-14N 65-59W	40	
		Scotch Mountain		45-46N 65-48W	40	
		Cape Blomidon		45-13N 64-24W	40	
		Grand Manan		44-36N 66-54W	40	
		Tiverton		44-23N 66-14W	40	
		Yarmouth		43-44N 66-07W	40	
		Lockeport		43-40N 65-08W	40	
	Mexico	Tampico	003450110	22-12N 97-51W	80	MRCC Ciudad Madero
		Veracruz	003450310	19-06N 96-08W	80	MRCC Veracruz
		Chetumal	003451120	18-30N 88-17W	80	MRCC Chetumal
		Cozumel	003451110	20-28N 86-58W	80	MRSC Isla Cozumel
		Ciudad del Carmen	003450710	18-39N 91-51W	80	MRSC Lerma-Campeche
		Progreso	003450910	21-16N 89-41W	80	MRSC Yukalpeten
		Coatzacoalcos	003450320	18-09N 94-26W	80	MRCC Veracruz
		NOTE: The following local VHF DSC stations assist with SAR communications within their individual coastal areas:				
		Isla Mujeres	003451171	21-14N 87-00W	20	MRSC Isla Mujeres
		Tuxpan	003450372	20-57N 97-22W	20	MRSC Tuxpan
		Lerma	003450772	19-49N 90-35W	20	MRSC Lerma
		Matamoros	003450172	25-44N 97-33W	20	MRSC Matamoros

# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

NAV/MET Area	Country	VHF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Range (NM)	
IV	Mexico (cont.)	NOTE: The following local VHF DSC stations assist with SAR communications within their individual coastal areas:				
		Mezquital	003450173	25-15N 97-27W	20	MRSC Mezquital
		Cayo Arcas	003450974	20-13N 91-58W	20	MRSC Cayo Arcas
		Isla Holbox	003451174	21-32N 87-17W	20	MRSC Isla Holbox
		Isla Contoy	003451175	21-30N 84-48W	20	MRSC Isla Contoy
		Playa Linda	003451176	21-08N 86-47W	20	MRSC Playa Linda
	Netherlands Antilles	Curaçao	003061000	-	-	JRCC Curaçao
		Seru Gracia (Curaçao)		12-20N 69-08W	40	
		Jamanota (Aruba)		12-29N 69-56W	35	
		Sibu Rincon (Bonaire)		12-14N 68-20W	30	
		Mt. Scenery (Saba)		17-38N 63-14W	70	
VI	Argentina	Argentina Radio	007010111	34-36S 58-28W	35	MRCC Buenos Aires
		Buenos Aires	007010001	34-27S 58-37W	35	
		Mar del Plata (Armada)	007010221	38-03S 57-32W	35	MRCC Puerto Belgrano
		Mar del Plata	007010003	38-03S 57-32W	35	
		Comodoro Rivadavia	007010008	45-51S 67-25W	35	
		Rio Gallegos	007010010	51-37S 69-03W	35	MRCC Ushuaia
		San Blas	007010006	40-33S 62-14W	35	MRSC Bahia Blanca
	Uruguay	Montevideo	007703870	-	-	MRCC Montevideo
		Armada Radio		34-56S 56-09W	30	
		Carmelo Radio		33-59S 58-17W	30	
		Colonia Radio		34-28S 57-50W	30	
		Piriapolis Radio		34-52S 55-16W	30	
		Chafalote Radio		34-28S 54-26W	30	
		Santa Teresa Radio		34-00S 53-33W	30	
VIII	India	Daman	004192201	20-25N 72-52E	20	MRCC Mumbai
		Porbander	004192202	31-38N 69-37E	25	
		Mumbai	004192203	18-55N 72-50E	25	
		New Mangalore	004192204	12-55N 74-48E	25	
		Kochi	004192205	09-58N 76-16E	20	
		Goa	004192206	15-25N 73-48E	25	
		Okha	004192207	22-28N 69-05E	20	
		Chennai	004194401	13-06N 80-18E	25	MRCC Chennai
		Vishakhapatnam	004194402	17-41N 83-17E	20	
		Paradip	004194403	20-16N 86-42E	25	
		Haldia	004194404	22-02N 88-06E	25	
		Tuticorn	004194405	08-45N 78-12E	20	
		Mandapam	004194406	09-17N 79-05E	20	
		Diglipor	004194407	13-18N 93-04E	25	MRCC Port Blair
		Campbell Bay	004194408	07-00N 93-55E	30	
		Port Blair	004194409	11-41N 92-46E	30	

**DISTRESS, EMERGENCY, AND SAFETY TRAFFIC**

NAV/MET Area	Country	VHF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Range (NM)	
VIII	Mauritius	Mauritius Radio	006452700	-	-	MRCC Mauritius
		Albion		20-13S 57-24E	25	
		Belle Mare		20-11S 57-46E	25	
		Cap Malheureux		19-59S 57-36E	25	
		Souillac		20-31S 57-31E	25	
	Myanmar (Burma)	Yangon (Rangoon)	005060100	16-42N 96-17E	25	MRCC Yangon
		Myeik	005060200	12-26N 98-36E	25	
IX	Egypt	Quseir	006221112	26-06N 34-17E	28	RCC Cairo
		Ras Gharib		28-22N 33-04E	28	
		Zeitiya		27-49N 33-35E	29	
		Hurghada		27-15N 33-48E	28	
		Safaga		26-45N 33-56E	28	
		Sharm-El-Sheikh		27-51N 34-13E	24	
		Dahab		28-29N 34-29E	23	
	Iran	Kharg (Island)	004225306	29-16N 50-15E	25-30	HQ PSO Tehran
		Khorramshahr	004225309	30-20N 48-23E	25-30	
		Lengeh	004225307	26-33N 54-53E	25-30	
		Bandar Abbas	004225304	27-07N 56-04E	25-30	
		Bahonar	004225308	27-18N 57-17E	25-30	
		Bandar Khomeyni	004225300	30-30N 49-09E	25-30	
		Bushehr	004225302	28-58N 50-50E	25-30	
		Anzali (Caspian Sea)	004225305	37-25N 49-20E	25-30	
		Nowshahr (Caspian Sea)	004225303	36-40N 51-30E	25-30	
		Neka (Caspian Sea)	004225311	36-50N 53-15E	25-30	
	Israel	Haifa	004280001	-	-	Haifa Radio
		Elat		29-30N 34-58E	50	
	Jordan	Aqaba Radio	004381234	29-27N 34-58E	25	Harbor Master Aqaba
		Aqaba Port Control		29-30N 34-59E	25	
	Kuwait	Kuwait Radio	004472188	29-22N 47-59E	N.I.	
	Pakistan	Karachi	004634060	24-52N 67-01E	40	MRCC Karachi
		Ormara	004634056	25-13N 64-38E	40	
		Gwadar	004634052	25-08N 64-20E	40	
	Qatar	Mesaieed Port	004661001	25-56N 51-35E	50	Dept. of Customs & Ports
	Saudi Arabia	Jiddah	004030000	-	-	RCC Jiddah
		Duba		27-21N 35-42E	33	
		Al Wajh		26-14N 36-27E	33	
		Umm Lajj		25-01N 37-16E	33	
		Yanbu		24-05N 38-03E	33	
		Rabigh		22-48N 39-01E	33	
		Sharm Abhur		21-43N 39-06E	33	
		Jiddah		21-15N 39-10E	30	
		Al Shoaibah		20-40N 39-31E	35	
		Al Lith		20-08N 40-16E	35	



# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

NAV/MET Area	Country	VHF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Range (NM)	
IX	Saudi Arabia (cont.)	Al Qunfudhah	004030000	19-07N 41-05E	35	RCC Jiddah
		Al Birk		18-12N 41-32E	35	
		Al Shaiq		17-43N 42-01E	35	
		Jizan		16-53N 42-32E	35	
		Khafji		28-26N 48-29E	33	
		Al Jubayl		27-00N 49-39E	33	
		Dammam		26-26N 50-06E	33	
		Aziziyah		26-15N 50-10E	33	
	United Arab Emirates	Emirates Radio	004700000	-	-	RCC Abu Dhabi
		Fujayrah		25-04N 56-21E	25	
		Khawr Fakkan		25-21N 56-22E	25	
		Ras al Khaymah		25-47N 55-59E	25	
		Umm al Qaywayn		25-32N 55-32E	25	
		Jabal Ali		25-02N 55-06E	25	
		Abu Zaby (Abu Dhabi)		24-28N 54-22E	25	
		Ruways (Jabal Dhanna)		24-06N 52-44E	25	
		Zirkuh		24-53N 53-04E	25	
X	New Caledonia	Noumea	005401000	-	-	MRCC Noumea
		Noumea		22-16S 166-28E	40	
		Mont Do		21-45S 166-00E	95	
		Kafeate		21-02S 164-43E	51	
		Mandgelia		20-24S 164-32E	84	
		Ouvea		20-39S 166-32E	27	
		Lifou		21-06S 167-24E	36	
		Mare		21-28S 168-02E	28	
		Oungone		22-19S 166-55E	68	
XI	China	Dalian	004121300	38-50N 121-31E	25	MRCC Liaoning
		Fuzhou	004122600	26-02N 119-18E	25	MRCC Fujian
		Guangzhou	004123100	23-08N 113-29E	25	MRCC Guangdong
		Haikou	004123500	20-01N 110-17E	25	MRSC Haikou
		Lianyungang	004122300	34-42N 119-18E	25	MRCC Lianyungang
		Ningbo	004122400	30-01N 121-30E	25	MRSC Ningbo
		Qingdao	004122200	36-10N 120-28E	25	MRSC Qingdao
		Qinhuangdao	004121200	39-33N 119-31E	25	MRCC Hebei
		Shanghai	004122100	31-06N 121-32E	25	MRCC Shanghai
		Tianjin	004121100	39-03N 117-25E	25	MRCC Tianjin
		Xiamen	004122700	24-35N 118-06E	25	MRSC Xiamen
		Yantai	004121400	37-32N 121-22E	25	MRSC Yantai
		Zhanjiang	004123300	21-09N 110-21E	23	RSC Zhanjiang
	Indonesia	Amboina (Ambon)	005250006	03-41S 128-11E	20	MRSC Amboina
		Balikpapan	005250009	01-16S 116-49E	20	MRSC Balikpapan

**DISTRESS, EMERGENCY, AND SAFETY TRAFFIC**

NAV/MET Area	Country	VHF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Range (NM)	
XI	Indonesia (cont.)	Batu Ampar	005250012	01-09N 104-00E	20	MRSC Tanjung Pinang
		Belawan	005250003	03-46N 98-41E	20	MRSC Medan
		Benoa	005250014	08-44S 115-12E	20	MRSC Denpasar
		Biak	005250031	01-12S 136-05E	20	MRCC Biak
		Bitung	005250005	01-26N 125-10E	20	MRSC Manado
		Cilacap	005250030	07-47S 109-02E	20	MRCC Jakarta
		Dumai	005250004	01-39N 101-26E	20	MRSC Pekanbaru
		Fak-Fak	005250026	02-56S 132-17E	20	MRSC Sorong
		Jakarta	005250000	06-07S 106-51E	20	MRCC Jakarta
		Jayapura	005250007	02-31S 140-43E	20	MRSC Jayapura
		Kendari	005250019	03-58S 122-34E	20	MRCC Ujung Pandang
		Kupang	005250010	10-12S 123-37E	20	MRSC Kupang
		Lembar	005250022	08-43S 116-04E	20	MRSC Denpasar
		Makassar	005250002	05-06S 119-26E	20	MRCC Ujung Pandang
		Manokwari	005250023	00-51S 134-04E	20	MRCC Biak
		Merauke	005250021	08-28S 140-23E	20	MRSC Merauke
		Panjang	005250013	05-28S 105-19E	20	MRSC Palembang
		Pantoloan	005250018	00-39S 119-44E	20	MRSC Manado
		Pontianak	005250016	00-01S 109-19E	20	MRSC Pontianak
		Sanana	005250025	02-03S 125-38E	20	MRSC Amboina
		Sei Kolak Kiang	005250029	00-51N 104-36E	20	MRSC Tanjung Pinang
		Semarang	005250008	06-56S 110-19E	20	MRCC Surabaya
		Sibolga	005250028	01-44N 98-46E	20	MRSC Medan
		Sorong	005250011	00-53S 131-18E	20	MRSC Sorong
		Surabaya	005250001	07-11S 112-43E	20	MRCC Surabaya
		Tahuna	005250024	03-36N 125-30E	20	MRSC Manado
		Tanjung Pinang	005250029	00-56N 104-29E	20	MRSC Tanjung Pinang
		Tarakan	005250017	03-17N 117-35E	20	MRSC Balikpapan
		Ternate	005250020	00-47N 127-35E	20	MRSC Amboina
	Malaysia	Pinang	-	05-26N 100-24E	-	MRCC Port Klang
		Gunung Jerai	005330001	05-47N 100-26E	95	
		Gunung Berinchang	005330003	04-31N 101-23E	117	
		Ulu Kali	005330004	03-26N 101-47E	114	
		Gunung Ledang	005330005	02-03N 102-34E	95	
		Tioman	005330006	02-48N 104-12E	27	
		Kuala Rompin	005330007	02-48N 103-29E	38	
		Kemuning	005330008	04-19N 103-28E	57	
		Kuala Terengganu	005330009	05-18N 103-08E	55	
		Machang	005330010	05-43N 102-17E	70	

**DISTRESS, EMERGENCY, AND SAFETY TRAFFIC**

NAV/MET Area	Country	VHF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Range (NM)	
XI	Malaysia (cont.)	Kuching	005330011	01-35N 110-11E	85	MRCC Port Klang
		Bintulu	005330012	03-13N 113-05E	48	
		Kota Kinabalu	005330013	06-02N 116-12E	75	
		Labuan	005330014	05-17N 115-15E	22	
	Republic of Korea	Inchon Maritime Police	004401001	37-30N 126-30E	25	RCC Inchon
		Donghae Maritime Police	004401002	37-31N 129-07E	25	RCC Donghae
		Mokpo Maritime Police	004401003	34-46N 126-23E	25	RCC Mokpo
		Busan Maritime Police	004401004	35-07N 129-02E	25	RCC Busan
		Cheju Maritime Police	004401005	33-21N 126-49E	25	RCC Cheju
		Inchon	004400001	37-34N 126-41E	25	RCC Inchon
		Kangnung	004400601	37-45N 128-53E	25	RCC Donghae
		Mokpo	004400301	34-48N 126-30E	25	RCC Mokpo
		Busan	004400101	35-06N 129-03E	25	RCC Busan
		Seoul	004400002	37-29N 128-43E	25	RCC Donghae
	Singapore	Singapore Port Operations Control	005630002	01-16N 103-51E	25	Singapore Port Operations Control Center
	Taiwan	Chi-lung (Keelung)	004162019	-	-	
		Anmashan (North)		24-16N 121-01E	86	
		Anmashan (West)		24-16N 121-01E	86	
		Chi-lung		25-08N 121-45E	21	
		Chinmen (Mainland)		24-28N 118-22E	32	
		Fukueichiao		25-14N 121-31E	40	
		Hotien Shan		23-53N 121-35E	45	
		Hsichuan Chuan		22-34N 121-01E	51	
		Lung Chuan		22-56N 120-26E	21	
		Matsu (Mainland)		26-13N 119-59E	32	
		San-I		24-24N 120-44E	43	
		Shou Shan		22-38N 120-15E	39	
		Suao		24-37N 121-52E	21	
		Taiho Shan		22-15N 120-52E	45	
		Taping		23-34N 120-36E	48	
		Taping Ting		22-01N 120-41E	30	
		Tsaoshan		25-06N 121-52E	51	
		Yingtzuling (North East)		24-54N 121-48E	64	
		Yingtzuling (South East)		24-54N 121-48E	64	
	Thailand	Bangkok Radio (Nonthaburi)	005671000	-	-	RCC Bangkok
		Sriracha		13-06N 100-55E	27	
		Petchaburi		12-59N 100-03E	27	
	Vietnam	Ben Thuy	005742009	18-39N 105-42E	30	Cua Lo Port Authority
		Cua Ong (Cam Pha)	005742008	20-01N 107-22E	30	Quang Ninh Port Authority

**DISTRESS, EMERGENCY, AND SAFETY TRAFFIC**

NAV/MET Area	Country	VHF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Range (NM)	
XI	Vietnam (cont.)	Da Nang	005741999	16-04N 108-13E	30	Da Nang Port Authority
		Hai Phong	005741996	20-52N 106-41E	30	Hai Phong Port Authority
		Ho Chi Minh City	005741993	10-46N 106-43E	30	Saigon Port Authority
		Hon Gai (Quang Ninh)	005742006	20-57N 107-04E	30	Quang Ninh Port Authority
		Hue	005742010	16-33N 107-38E	30	Thien Hue Port Authority
		Mong Cai	005742007	21-32N 107-58E	30	Quang Ninh Port Authority
		Nha Trang	005742001	12-12N 109-13E	30	Nha Trang Port Authority
		Vung Tau	005742004	10-21N 107-06E	30	Vung Tau Port Authority
	Hong Kong (Associate Member of IMO)	Hong Kong Maritime Rescue	004773500	22-24N 114-07E	50	MRCC Hong Kong
		Victoria Peak (Alternative)		22-16N 114-08E		
XII	Canada	Prince Rupert	003160013	-	-	JRCC Victoria
		Dundas		54-31N 130-55W	40	
		Mount Hayes		54-17N 130-18W	40	
		Naden Harbor		53-57N 132-57W	40	
		Mount Gil		53-16N 129-12W	40	
		Cumshewa		53-10N 132-00W	40	
		Klemtu		52-35N 128-34W	40	
		Rose Inlet		52-13N 131-13W	40	
		Calvert		51-35N 128-00W	40	
		Comox	003160014	49-45N 124-57W	40	
		Port Hardy		50-42N 127-42W	40	
		Texada		49-42N 124-26W	40	
		Discovery		50-19N 125-22W	40	
		Tofino	003160012	-	-	
		Holberg		50-38N 128-08W	40	
		Eliza Dome		49-52N 127-07W	40	
		Esperanza		49-50N 126-48W	40	
		Nootka		49-36N 126-37W	40	
		Estevan Point		49-23N 126-32W	40	
		Port Alberni		49-13N 124-49W	40	
		Mount Ozzard		48-58N 125-30W	40	
		Amphitrite Point		48-55N 125-32W	40	
		Victoria	003160011	-	-	
		Bowen		49-21N 123-23W	40	
		Annacis Island		49-12N 122-55W	40	
		Mount Parke		48-50N 123-18W	40	

# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

NAV/MET Area	Country	VHF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Range (NM)	
XII	Canada (cont.)	Mount Newton	003160011	48-37N 123-27W	40	JRCC Victoria
		Helmcken		48-24N 123-34W	40	
		Vancouver	003160010	-	-	
		Watts Point		49-39N 123-13W	40	
	Ecuador	Guayaquil	007354750	02-11S 79-53W	30	Guayaquil Coast Guard
		Esmeraldas	007354752	00-57N 70-39W	30	
		Bahia	007354753	00-35S 80-25W	30	
		Manta	007354754	00-57S 80-43W	30	
		Salinas	007354755	02-12S 80-52W	30	
		Puerto Bolivar	007354756	03-16S 80-00W	30	
		Ayora	007354757	00-44S 90-20W	30	
		Baquerizo Moreno	007354758	00-54S 89-37W	30	
	Mexico	Mazatlan	003450810	23-10N 106-26W	80	MRCC Mazatlan
		Ensenada	003450210	31-51N 116-37W	80	MRCC Ensenada
		Manzanillo	003451410	19-01N 104-19W	80	MRSC Puerto Vallarta
		Acapulco	003451810	16-50N 99-56W	80	MRSC Acapulco
		Lazaro Cardenas	003451610	17-57N 102-12W	80	MRSC Lazaro Cardenas
		Puerto Vallarta	003451210	20-46N 105-32W	80	MRSC Puerto Vallarta
		NOTE: The following local VHF DSC stations assist with SAR communications within their individual coastal areas:				
		Guaymas	003450671	27-55N 110-52W	20	MRSC Guaymas
		Salina Cruz	003452071	16-11N 96-12W	20	MRSC Salina Cruz
		La Paz	003450471	24-08N 110-21W	20	MRSC La Paz
		Puerto Penasco	003450672	31-18N 113-35W	20	MRSC Puerto Penasco
		Topolobampo	003450872	25-35N 109-09W	20	MRSC Topolobampo
		Puerto Madero	003452271	14-42N 92-24W	20	MRSC Puerto Madero
		Puerto Cortez	003450472	24-33N 111-45W	20	MRSC Puerto Cortez
		Isla de Cedros	003450272	28-12N 115-15W	20	MRSC Isla de Cedros
		Isla Guadalupe	003450273	29-02N 118-17W	20	MRSC Isla Guadalupe
		San Felipe	003450274	31-01N 114-50W	20	MRSC San Felipe
		Los Cabos	003450473	22-52N 109-53W	20	MRSC Los Cabos
		Santa Rosalia	003450474	27-20N 112-15W	20	MRSC Santa Rosalia
		Isla Socorro	003450475	18-36N 110-58W	20	MRSC Isla Socorro
		Isla Clarion	003451472	18-22N 115-44W	20	MRSC Isla Clarion
		Huatulco	003452072	15-45N 96-08W	20	MRSC Huatulco

# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

NAV/MET Area	Country	VHF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Range (NM)	
XII	Mexico (cont.)	NOTE: The following local VHF DSC stations assist with SAR communications within their individual coastal areas:				
		Paredon	003452272	16-03N 93-52W	20	MRSC Paredon
		San Blas	003450174	21-32N 105-17W	20	MRSC San Blas
XIII	Russian Federation	Vladivostok	002734412	43-07N 131-55E	55	MRCC Vladivostok
		Nakhodka		42-51N 132-50E	45	
		Tumannaya (Posiet)		42-34N 131-11E	70	
		Yuzhno-Sakhalinsk	002733733	-	-	MRSC Yuzhno-Sakhalinsk
		Korsakov		46-45N 142-27E	42	
		Kholmsk		47-02N 142-03E	31	
		Nevelsk		46-38N 141-51E	40	
		Magadan	002734416	59-33N 150-43E	19	MRSC Petropavlovsk-Kamchatskiy
XV	Chile	Arica	007250010	18-29S 70-19W	39	MRSC Iquique
		Iquique	007250020	20-21S 70-06W	64	
		Tocopilla	007250030	22-05S 70-12W	14	
		Mejillones	007250040	23-05S 70-27W	14	
		Antofagasta	007250050	23-40S 70-24W	30	
		Taltal	007250060	25-24S 70-29W	14	MRSC Valparaiso
		Chanaral	007250070	26-21S 70-38W	14	
		Caldera	007250080	27-04S 70-49W	14	
		Huasco	007250090	28-27S 71-13W	14	
		Isla de Pascua	007250100	27-11S 109-25W	44	
		Coquimbo	007250110	29-56S 71-20W	62	
		Los Vilos	007250120	31-54S 71-31W	14	
		Quintero	007250125	32-46S 71-31W	14	
		Valparaiso	007251860	33-04S 71-36W	63	
		San Antonio	007250140	33-34S 71-37W	31	
		Juan Fernandez	007250130	33-37S 78-49W	14	
		Constitucion	007250150	35-19S 72-24W	14	MRSC Talcahuano
		Talcahuano	007250170	36-37S 73-04W	32	
		Valdivia	007250220	39-48S 73-15W	14	
		Corral	007250210	39-53S 73-25W	14	
		Puerto Montt	007250230	41-39S 73-10W	34	MRCC Puerto Montt
		Corona	007250235	41-47S 73-52W	26	
		Ancud	007250240	41-52S 73-50W	14	
		Castro	007250250	42-29S 73-46W	14	
		Chaiten	007250260	42-55S 72-43W	14	
		Quellon	007250270	43-07S 73-37W	14	
		Isla Guafo	007250290	43-34S 74-49W	33	
		Melinka	007250280	43-54S 73-44W	14	
		Puerto Aguirre	007250294	45-09S 73-31W	14	
		Aysen	007250300	45-24S 72-43W	16	
		Puerto Chacabuco	007250298	45-26S 73-49W	14	

# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

NAV/MET Area	Country	VHF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Range (NM)	
XV	Chile (cont.)	Cabo Raper	007250310	46-49S 75-37W	21	MRCC Punta Arenas
		San Pedro	007250320	47-42S 74-53W	18	
		Puerto Eden	007250330	49-08S 74-27W	14	
		Puerto Natales	007250340	51-45S 72-32W	14	
		Faro Evangelistas	007250350	52-23S 75-06W	21	
		Bahia Felix	007250370	52-44S 73-46W	19	
		Faro Fairway	007250360	52-57S 74-05W	19	
		Punta Arenas	007250380	53-09S 71-02W	64	
		Punta Delgada	007250390	52-27S 69-33W	17	
		Punta Dungeness	007250400	52-24S 68-26W	20	
		Espiritu Santo	007250410	52-39S 68-36W	24	
		Puerto Williams	007250420	54-56S 67-36W	22	
		Wollaston	007250430	55-36S 67-25W	28	
		Diego Ramirez	007250440	56-31S 68-42W	28	
		Bahia Fildes	007250450	62-11S 58-55W	14	
		Bahia Paraiso	007250470	64-49S 62-51W	14	
XVI	Peru	Zorritos	007600120	03-40S 80-40W	40	MRSC Zorritos
		Talara	007600122	04-34S 81-16W	40	MRSC Talara
		Paita	007600121	05-05S 81-07W	40	MRCC Paita
		Pimentel	007600123	06-57S 79-52W	40	MRSC Pimentel
		Salaverry	007600124	08-13S 78-59W	40	MRSC Salaverry
		Chimbote	007600126	09-05S 78-38W	40	MRCC Chimbote
		Supe	007600127	10-49S 77-43W	40	MRSC Supe
		Huacho	007600128	11-07S 77-37W	40	MRSC Huacho
		Callao	007600125	12-03S 77-09W	40	MRCC Callao
		Pisco	007600130	13-43S 76-14W	40	MRSC Pisco
		San Juan	007600131	15-21S 75-09W	40	MRSC San Juan
		Mollendo	007600129	17-01S 72-01W	40	MRCC Mollendo
		Ilo	007600132	17-38S 71-21W	40	MRSC Ilo

# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

## LIST OF OPERATIONAL MF DSC COAST STATIONS FOR SEA AREAS A2

(Extracted from ANNEX 3 of the IMO GMDSS Master Plan)

NAV/MET Area	Country	MF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Range (NM)	
I	Belgium	Oostende	002050480	51-11N 02-48E	115	Oostende
	Denmark	Lyngby	002191000	-	-	SOK, Aarhus
		Blåvand		55-33N 08-07E	153	
		Skagen		57-44N 10-34E	148	
		Torshavn (Færoes)	002311000	62-00N 06-47W	225	MRCC Torshavn
	Estonia	Tallinn	002761000	59-24N 24-40E	150	MRCC Tallinn
		Undva		58-29N 21-59E	150	
		Kuressaare	002760120	58-15N 22-29E	150	
	Finland	Turku	002300230	-	-	MRCC Turku
		Sondby	002302000	60-16N 25-51E	185	MRSC Helsinki
		Mariehamn	002301000	60-07N 19-57E	185	MRCC Turku
		Hailuoto	002303000	65-02N 24-32E	185	MRSC Vaasa
		Raippaluoto		63-18N 21-10E	185	
	France	Corsen (CROSS)	002275300	-	-	MRCC Corsen
		Ouessant (Tx)		48-28N 05-03W	300	
		Corsen (Rx)		48-24N 04-24W	300	
	Iceland	Reykjavik	002510100	64-05N 21-51W	-	MRCC Keflavik
		Arnarnes (Tx)		66-05N 23-02W	200	
		Garoskagi (Rx)		64-04N 22-41W	200	
		Grimsey (Rx)		66-31N 17-59W	200	
		Holl (Rx)		65-35N 14-15W	200	
		Hornafjorour (Tx)		64-15N 15-13W	200	
		Nes (Tx)		65-09N 13-42W	200	
		Raufarhofn (Tx)		66-27N 15-56W	200	
		Rjupnahao (Tx)		64-05N 21-50W	200	
		Saefjall (Tx)		63-25N 20-16W	200	
		Streite (Rx)		64-43N 13-59W	200	
		Storhofdi (Tx)		63-24N 20-17W	200	
		Thverfjalli (Rx)		66-02N 23-18W	200	
	Ireland	Malin Head	002500100	55-21N 07-20W	150	MRSC Malin Head
		Valentia	002500200	51-55N 10-20W	150	MRSC Valentia
	Latvia	Riga Rescue Radio	002750100	57-02N 24-05E	150	MRCC Riga
		Uzava		57-13N 21-26E	120	
		Akmenrags		56-50N 21-03E	120	
	Lithuania	Klaipeda Rescue	002770330	55-43N 21-06E	100	MRCC Klaipeda
	Netherlands	Netherlands Coast Guard	002442000	-	-	JRCC Den Helder
		Scheveningen (Tx)		52-06N 04-15E	240	
		Appingedam (Tx)		53-20N 06-52E	150	
		West Terschelling (Rx)		53-21N 05-13E	150	
		Noordwijk (Rx)		52-18N 04-28E	150	
	Norway	Tjøme	002570100	-	-	MRCC Stavanger
		Jeløy		59-26N 10-37E	200	



# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

NAV/MET Area	Country	MF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Range (NM)	
I	Norway (cont.)	Rogaland	002570300	-	-	MRCC Stavanger
		Bergen		60-43N 04-53E	200	
		Farsund		58-04N 06-45E	200	
		Vigre		58-39N 05-36E	200	
		Florø	002570500		-	
		Florø		61-36N 05-00E	200	
		Ørlandet		63-40N 09-33E	200	
		Bodø	002570700	-	200	MRCC Bodø
		Sandnessjøen		66-01N 12-37E	200	
		Andenes		69-17N 16-01E	200	
		Jan Mayen		70-57N 08-40W	200	
		Bjørnøya	002570800	74-31N 19-01E	200	
		Vardø		-	200	
		Tromsø		69-39N 18-57E	200	
		Hammerfest		70-40N 23-40E	200	
		Berlevåg	002570900	70-52N 29-04E	200	
		Svalbard		78-02N 13-40E	200	
	Poland	Witowo	002610210	54-32N 16-32E	150	MRCC Gdynia
		Barzowice (Tx)		54-28N 16-30E	N.I.	
		Gdynia/Oksywie (Tx)		54-33N 18-32E	N.I.	
		Grzywacz (Rx)		53-57N 14-30E	N.I.	
	Russian Federation	Kaliningrad	002734417	54-45N 20-35E	125	MRSC Kaliningrad
		St. Petersburg	002733700	-	-	MRCC St. Petersburg
		Primorsk (Rx)		60-20N 28-43E	150	
		Karavaldayskiy (Tx)		59-59N 29-07E	150	
		Murmansk	002734420	68-52N 33-05E	170	MRCC Murmansk
		Arkhangel'sk	002734414	64-21N 40-37E	<sup>1</sup>	MRSC Arkhangel'sk
	Sweden	Göteborg	002653000	57-28N 11-56E	210	MRCC Göteborg
		Bjuröklubb		64-28N 21-36E	210	
		Hoburg		56-56N 18-13E	250	
		Stockholm (Rx)		59-16N 18-42E	210	
	United Kingdom	Aberdeen	002320004	57-25N 01-51W	150	MRCC Aberdeen
		Humber	002320007	54-05N 01-10W	150	MRSC Humber
		Cullercoats		55-04N 01-28W	150	
		Stornoway	002320024	58-13N 06-20W	150	MRSC Stornoway
		Holyhead	002320018	53-19N 04-38W	150	MRSC Holyhead
		Falmouth	002320014	50-08N 05-07W	150	MRCC Falmouth
		Clyde	002320022	55-58N 04-48W	150	MRCC Clyde
		Milford Haven	002320017	51-41N 05-03W	150	MRSC Milford Haven
		Shetland	002320001	60-09N 01-08W	150	MRSC Shetland
II	Benin	Cotonou	006100001	06-21N 02-26E	150	

# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

NAV/MET Area	Country	MF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Range (NM)	
II	France	Corsen (CROSS)	002275300	-	-	MRCC Corsen
		Ouessant (Tx)		48-28N 05-03W	300	
		Corsen (Rx)		48-24N 04-24W	300	
	Ghana	Tema	006270000	05-39N 00-03W	200	Harbor Master's Office Accra
	Spain	Bilbao (CCR)	002241021	-	-	
		Machichaco		43-27N 02-45W	150	MRCC Bilbao
		Cabo Penas		43-39N 05-51W	150	MRCC Gijon
		MRCC Bilbao*	002240996	43-21N 03-02W	150	MRCC Bilbao
		MRCC Gijon*	002240997	43-34N 05-42W	150	MRCC Gijon
		Coruna (CCR)	002241022	-	-	
		Finisterre		42-54N 09-16W	150	MRCC Finisterre
		Coruna		43-22N 08-27W	150	MRCC Coruna
		MRCC Finisterre*	002240993	42-42N 08-59W	150	MRCC Finisterre
		MRCC Tarifa*	002240994	36-01N 05-35W	150	MRCC Tarifa
		Malaga (CCR)	002241023	-	-	
		Chipiona		36-41N 06-24W	150	
		Conil		36-17N 06-05W	N.I.	
		Tarifa		36-03N 05-33W	150	
		MRCC Tenerife*		28-29N 16-14W	150	MRCC Tenerife
		MRCC Las Palmas*	002240995	28-09N 15-25W	150	MRCC Las Palmas
		Las Palmas (CCR)	002241026	-	-	
		Arrecife		29-08N 13-31W	150	
		Las Palmas		27-45N 15-36W	150	
		Tenerife		28-25N 16-20W	150	
III	Bulgaria	Varna	002070810	43-04N 27-46E	200	MRCC Varna
	Croatia	MRCC Rijeka	002387010	45-19N 14-27E	160	MRCC Rijeka
	Cyprus	Cyprus	002091000	35-02N 33-17E	200	RCC Larnaca
	Egypt	Alexandria	006221111	31-11N 29-51E	200	RCC Cairo
		Port Said	006221113	31-19N 32-18E	200	
	France	La Garde (CROSS)	002275400	-	-	MRCC La Garde
		Porquerolles (Tx)		42-59N 06-12E	200	
		La Garde (Rx)		43-06N 05-59E	200	
	Georgia	Batumi	002130100	41-39N 41-39E	150	MRCC Georgia
	Greece	Olympia	002371000	38-01N 23-50E	-	JRCC Piraeus
		Iraklion		35-20N 25-07E	200	
		Kerkyra		39-37N 15-55E	200	
		Limnos		39-52N 25-04E	200	
		Rodos		36-26N 28-15E	200	
		Piraeus JRCC <sup>2,3</sup>	237673000	37-58N 23-40E	130	
		Kerkira <sup>3</sup>	237673190	39-38N 19-55E	130	
		Patrai <sup>3</sup>	237673140	38-14N 21-44E	130	

\*NOTE: The primary responsibility for the receipt of MF DSC distress alerts for Spain is carried out via the Coast Radio Stations. MF DSC facilities maintained at various MRCCs are only complementary to the Coast Radio Stations network.

# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

NAV/MET Area	Country	MF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Range (NM)	
III	Greece (cont.)	Pylos <sup>3</sup>	237673230	36-54N 21-41E	130	JRCC Piraeus
		Iraklion <sup>3</sup>	237673180	35-20N 25-08E	130	
		Rodhos <sup>3</sup>	237673150	36-27N 28-14E	130	
		Thessaloniki <sup>3</sup>	237673210	40-38N 22-56E	130	
		Mytilini <sup>3</sup>	237673220	39-06N 26-35E	130	
		Aspropirgos <sup>2</sup>	002391000	38-03N 23-35E	200	
	Israel	Haifa	004280001	32-49N 35-00E	150	MRCC Israel
	Italy	Roma	002470001	-	-	
		Trieste		45-40N 13-46E	200	MRSC Trieste
		Ancona		43-36N 13-28E	200	MRSC Ancona
		Cagliari		39-13N 09-14E	200	MRSC Cagliari
		Roma		41-37N 12-29E	200	MRSC Roma
		Genova		44-25N 08-56E	200	MRSC Genova
		Palermo	002470002	-	-	
		Palermo (Punta Raisi)		38-11N 13-06E	200	MRSC Palermo
		Mazara del Vallo		37-39N 12-36E	200	
		Augusta		37-14N 15-14E	200	MRSC Catania
		Bari		40-26N 17-25E	200	MRSC Bari
	Romania	Constanta	002640570	44-06N 28-37E	100	Constanta Harbor Master
	Russian Federation	Novorossiysk	002734411	44-36N 37-58E	173	MRCC Novorossiysk
		Taganrog		47-14N 38-56E	70	
		Temrujk		45-19N 37-13E	70	
	Serbia and Montenegro	Bar	002790001	42-01N 19-08E	150	MRCC Bar
	Spain	Valencia (CCR)	002241024	-	-	
		Bagur		42-17N 03-15E	N.I.	MRCC Barcelona
		Cabo la Nao		38-43N 00-10W	150	MRCC Valencia
		Cabo de Gata		36-43N 02-12W	150	MRCC Almeria
		Palma		39-21N 02-59E	150	MRCC Palma
		MRCC Almeria*	002241002	36-50N 02-29W	150	MRCC Tarifa
		MRCC Valencia*	002241004	39-27N 00-20W	150	MRCC Valencia
		MRCC Barcelona*	002240991	41-20N 02-09E	150	MRCC Barcelona
	Turkey	Izmir	002715000	38-21N 26-35E	146	MSRCC Ankara
		Antalya	002713000	36-53N 30-42E	146	
		Samsun	002712000	41-17N 36-20E	146	
		Istanbul	002711000	40-59N 28-49E	146	
IV	Bermuda	Bermuda Harbor	003100001	32-23N 64-41W	200	RCC Bermuda
	Greenland (Denmark)	Aasiaat	003313000	-	-	MRCC Grønneal
		Upernavik		72-47N 56-10W	280	
		Sisimiut		66-55N 53-40W	270	
		Nuuk		64-04N 52-01W	250	

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**DISTRESS, EMERGENCY, AND SAFETY TRAFFIC**

NAV/MET Area	Country	MF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Range (NM)	
IV	Greenland (Denmark) (cont.)	Qeqertarsuaq	003313000	69-14N 53-31W	250	MRCC Grønndal
		Qaqortoq	003311000	-	-	
		Paamiut		62-00N 49-43W	250	
		Ikerasassuaq		60-04N 43-10W	220	
		Simiutaq		60-41N 46-36W	250	
		Ammassilik	003314000	65-36N 37-38W	280	
	Mexico	Tampico	003450110	22-13N 97-52W	150	MRCC Ciudad Madero
	Netherlands Antilles	Curaçao (Seru Gracia)	003061000	12-20N 69-08W	400	JRCC Curaçao
	United States	Boston	003669991	41-39N 70-30W	200	RCC Boston
		Chesapeake	003669995	36-44N 76-01W	200	RCC Norfolk
		Miami	003669997	25-37N 80-23W	200	RCC Miami
		New Orleans	003669998	29-53N 89-57W	200	RCC New Orleans
VI	Argentina	Argentina Radio	007010111	34-36S 58-28W	200	MRCC Buenos Aires
		Mar del Plata	007010221	38-03S 57-32W	150	MRCC Puerto Belgrano
		Comodoro Rivadavia	007010008	45-51S 67-25W	150	
		Rio Gallegos	007010010	51-37S 69-03W	150	MRCC Ushuaia
		San Blas	007010006	40-33S 62-14W	150	MRSC Bahia Blanca
	Uruguay	Montevideo	007703870	-	-	MRCC Montevideo
		Armada Radio		34-56S 56-09W	100	
VIII	India	Port Blair	004194409	11-41N 92-46E	200	MRCC Port Blair
		Porbandar	004192202	21-38N 69-37E	200	MRCC Mumbai
		Haldia	004194404	22-02N 88-06E	200	MRCC Chennai
		Mandapam	004194406	09-17N 79-05E	200	
		Daman	004192201	20-25N 72-52E	200	MRCC Mumbai
	Mauritius	Mauritius Radio	006452700	-	-	MRCC Mauritius
		Cassis		20-12S 57-28E	150	
	Myanmar (Burma)	Yangon (Rangoon)	005060100	16-42N 96-17E	100	MRCC Yangon
IX	Egypt	Quseir	006221112	26-07N 34-17E	200	RCC Cairo
	Jordan	Aqaba	004381234	29-33N 34-59E	350	Harbor Master Aqaba
	Kuwait	Kuwait Radio	004472188	29-22N 47-59E	N.I.	
	Pakistan	Karachi	004634060	24-52N 67-01E	250	MRCC Karachi
	Saudi Arabia	Jiddah	004030000	21-23N 39-11E	500	RCC Jiddah
XI	China	Basuo	004123600	19-06N 108-37E	100	MRSC Basuo
		Beihai	004123400	21-29N 109-04E	100	MRSC Beihai
		Dalian	004121300	38-50N 121-31E	100	MRCC Liaoning
		Fuzhou	004122600	26-01N 119-18E	100	MRCC Fujian
		Guangzhou	004123100	23-08N 113-29E	100	MRCC Guangdong
		Lianyungang	004122300	34-42N 119-18E	100	MRCC Lianyungang
		Ningbo	004122400	30-01N 121-30E	100	MRSC Ningbo

# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

NAV/MET Area	Country	MF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Range (NM)	
XI	China (cont.)	Qingdao	004122200	36-02N 120-28E	100	MRSC Qingdao
		Sanya	004123700	18-14N 109-30E	100	MRSC Sanya
		Shanghai	004122100	31-07N 121-33E	100	MRCC Shanghai
		Shantou	004123200	23-21N 116-40E	100	MRSC Shantou
		Tianjin	004121100	39-03N 117-25E	100	MRCC Tianjin
		Wenzhou	004122500	28-02N 120-39E	100	MRSC Wenzhou
		Xiamen	004122700	24-35N 118-06E	100	MRSC Xiamen
		Yantai	004121400	37-32N 121-22E	100	MRSC Yantai
		Zhanjiang	004123300	21-10N 110-22E	100	RSC Zhanjiang
	East Timor	Dili	005250015	08-33S 125-34E	100	MRSC Kupang
	Indonesia	Amboina (Ambon)	005250006	03-41S 128-11E	100	MRSC Amboina
		Balikpapan	005250009	01-16S 116-49E	100	MRSC Balikpapan
		Batu Ampar	005250012	01-09N 104-00E	100	MRSC Tanjung Pinang
		Belawan	005250003	03-46N 98-41E	100	MRSC Medan
		Benoa	005250014	08-44S 115-12E	100	MRSC Denpasar
		Biak	005250031	01-12S 136-05E	100	MRCC Biak
		Bitung	005250005	01-26N 125-10E	100	MRSC Manado
		Cilacap	005250030	07-45S 109-02E	100	MRCC Jakarta
		Dumai	005250004	01-39N 101-26E	100	MRSC Pekanbaru
		Fak-Fak	005250026	02-56S 132-17E	100	MRSC Sorong
		Jakarta	005250000	06-07S 106-51E	100	MRCC Jakarta
		Jayapura	005250007	02-31S 140-43E	100	MRSC Jayapura
		Kendari	005250019	03-58S 122-34E	100	MRCC Ujung Pandang
		Kupang	005250010	10-12S 123-37E	100	MRSC Kupang
		Lembar	005250022	08-43S 116-04E	100	MRSC Denpasar
		Makassar	005250002	05-06S 119-26E	100	MRCC Ujung Pandang
		Manokwari	005250023	00-51S 134-04E	100	MRCC Biak
		Merauke	005250021	08-28S 140-23E	100	MRSC Merauke
		Panjang	005250013	05-28S 105-19E	100	MRSC Palembang
		Pantoloan	005250018	00-39S 119-44E	100	MRSC Manado
		Pontianak	005250016	00-01S 109-19E	100	MRSC Pontianak
		Sanana	005250025	02-03S 125-38E	100	MRSC Amboina
		Sei Kolak Kiang	005250029	00-51N 104-36E	100	MRSC Tanjung Pinang
		Semarang	005250008	06-59S 110-19E	100	MRCC Surabaya
		Sibolga	005250028	01-44N 98-46E	100	MRSC Medan
		Sorong	005250011	00-53S 131-18E	100	MRSC Sorong
		Surabaya	005250001	07-11S 112-43E	100	MRCC Surabaya
		Tahuna	005250024	03-36N 125-30E	100	MRSC Manado
		Tarakan	005250017	03-17N 117-35E	100	MRSC Balikpapan
		Ternate	005250020	00-47N 127-35E	100	MRSC Amboina

**DISTRESS, EMERGENCY, AND SAFETY TRAFFIC**

NAV/MET Area	Country	MF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Range (NM)	
XI	Japan	Otaru	004310101	-	-	RCC Otaru
		Shakotan		43-20N 140-32E	150	
		Hakodateyama		41-45N 140-43E	150	
		Kushiro	004310102	-	-	RCC Kushiro
		Tokotan		43-00N 144-53E	150	
		Souyamisaki		45-31N 141-56E	150	
		Nemuro		43-21N 145-35E	100	
		Monbetsu		44-21N 143-22E	150	
		Shiogama	004310201	-	-	RCC Shiogama
		Komagamine		38-18N 141-32E	150	
		Same		40-29N 141-37E	150	
		Kamaishi		39-16N 141-54E	150	
		Akita		39-44N 140-04E	150	
		Yokohama	004310301	-	-	RCC Yokohama
		Chikura		34-56N 139-56E	150	
		Chosi		35-44N 140-52E	150	
		Shimoda		34-40N 138-57E	150	
		Nagoya	004310401	-	-	RCC Nagoya
		Asamagatake		34-27N 136-49E	150	
		Tanabe	004310502	33-43N 135-24E	150	RCC Kobe
		Kochi	004310503	-	-	
		Tosayama		33-36N 133-32E	150	
		Kobe	004310501	-	-	
		Senzan		34-22N 134-50E	60	
		Hiroshima	004310601	-	-	RCC Hiroshima
		Noro		34-15N 132-40E	60	
		Moji	004310701	-	-	RCC Kitakyushu
		Yukawayama		33-52N 130-33E	150	
		Wakayama		33-11N 131-44E	60	
		Mokkoku		34-08N 129-12E	150	
		Sasebo	004310702	-	-	
		Ishimoriyama		33-14N 129-44E	150	
		Maizuru	004310801	-	-	RCC Maizuru
		Sorayama		35-33N 135-25E	150	
		Nawa		35-31N 133-32E	150	
		Niigata	004310901	37-54N 139-03E	150	RCC Niigata
		Kagoshima	004311001	-	-	RCC Kagoshima
		Yoko-o		31-19N 130-49E	150	
		Aburatsu		31-35N 131-25E	150	
		Naze		28-23N 129-30E	100	
		Naha	004311101	-	-	RCC Naha
		Tamagutsuku		26-09N 127-46E	150	
		Ishigaki	004311102	-	-	
		Miyara		24-21N 124-12E	150	

# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

NAV/MET Area	Country	MF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Range (NM)	
XI	Malaysia	Pinang	-	-	-	MRCC Port Klang
		Kuantan	005330008	04-06N 103-23E	200	
		Kuching	005330011	01-49N 109-46E	200	
		Kota Kinabalu	005330013	05-57N 116-02E	200	
		Permatang Pauh	005330002	05-22N 100-18E	200	
	Republic of Korea	Inchon Maritime Police	004401001	37-30N 126-30E	120	RCC Inchon
		Donghae Maritime Police	004401002	37-31N 129-07E	120	RCC Donghae
		Mokpo Maritime Police	004401003	34-46N 126-23E	120	RCC Mokpo
		Busan Maritime Police	004401004	35-07N 129-02E	120	RCC Busan
		Cheju Maritime Police	004401005	33-21N 126-49E	120	RCC Cheju
		Inchon	004400001	37-34N 126-41E	120	RCC Inchon
		Kangnung	004400601	37-45N 128-53E	120	RCC Donghae
		Mokpo	004400301	34-48N 126-30E	120	RCC Mokpo
		Busan	004400101	35-06N 129-03E	120	RCC Busan
		Seoul	004400002	37-29N 128-43E	120	RCC Donghae
	Taiwan	Chi-lung (Keelung)	004162019	-	-	
		Chi-lung		25-08N 121-45E	97	
		Hua-lien (Rx)		23-53N 121-35E	100	
		Linyuan		22-29N 120-24E	97	
		Sanchih (Rx)		25-16N 121-28E	90	
		Taping Ting (Rx)		22-01N 120-42E	100	
		Yenliaoken		23-54N 121-36E	97	
		Yüanli (Rx)		24-26N 120-38E	90	
	Thailand	Bangkok Radio (Nonthaburi)	005671000	-	-	RCC Bangkok
		Sriracha		13-06N 100-55E	162	
	Vietnam	Ben Thuy	005742009	18-39N 105-42E	200	Cua Lo Port Authority
		Cua Ong (Cam Pha)	005742008	21-01N 107-22E	200	Quang Ninh Port Authority
		Da Nang	005741999	16-04N 108-13E	200	Da Nang Port Authority
		Hai Phong	005741996	20-52N 106-41E	200	Hai Phong Port Authority
		Ho Chi Minh City	005741993	10-45N 106-43E	200	Saigon Port Authority
		Hon Gai (Quang Ninh)	005742006	20-57N 107-04E	200	Quang Ninh Port Authority
		Hue	005742010	16-33N 107-38E	200	Thien Hue Port Authority
		Mong Cai	005742007	21-32N 107-58E	200	Quang Ninh Port Authority
	Hong Kong (Associate Member of IMO)	Hong Kong Maritime Rescue	004773500	22-12N 114-15E	200	MRCC Hong Kong
		Mt. Butler		22-16N 114-12E	200	

# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

NAV/MET Area	Country	MF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Range (NM)	
XII	Mexico	Mazatlan	003450810	23-10N 106-27W	150	MRCC Mazatlan
	United States	Point Reyes	003669990	37-56N 122-44W	200	RCC Alameda
		Kodiak	003669899	57-46N 152-34W	150	RCC Juneau
		Honolulu	003669993	21-26N 158-09W	200	RCC Honolulu
XIII	Russian Federation	Yuzhno-Sakhalinsk	002733733	-	-	MRSC Yuzhno-Sakhalinsk
		Nevelsk (Rx)		46-39N 141-52E	165	
		Seleznevo (Tx)		46-37N 141-50E	165	
		Vladivostok	002734412	42-45N 133-02E	150 <sup>4</sup>	MRCC Vladivostok
XIV	Fiji	RCC Suva	005201100	18-07S 178-25E	200	RCC Wellington RCC Funafuti RCC Nadi Nat. Surv. Center Samoa Mar. Div. Tarawa RCC Canberra
XV	Chile	Arica	007250010	18-29S 70-19W	180	MRSC Iquique
		Iquique	007250020	20-12S 70-06W	180	
		Antofagasta	007250050	23-40S 70-24W	180	
		Caldera	007250080	27-04S 70-49W	180	MRSC Valparaiso
		Isla de Pascua	007250100	27-11S 109-25W	180	
		Coquimbo	007250110	29-56S 71-20W	180	
		Valparaiso	007251860	33-04S 71-36W	180	
		San Antonio	007250140	33-34S 71-37W	180	
		Juan Fernandez	007250130	33-37S 78-49W	180	
		Talcahuano	007250170	36-37S 73-04W	180	MRSC Talcahuano
		Puerto Montt	007250230	41-39S 73-10W	180	MRSC Puerto Montt
		Aysen	007250300	45-24S 72-43W	180	
		San Pedro	007250320	47-42S 74-53W	180	MRSC Punta Arenas
		Bahia Felix	007250370	52-44S 73-46W	180	
		Punta Arenas	007250380	53-09S 71-02W	180	
		Punta Delgada	007250390	52-27S 69-33W	180	
		Puerto Williams	007250420	54-56S 67-36W	180	
XVI	Peru	Paíta	007600121	05-05S 81-07W	200	MRCC Paíta
		Callao	007600125	12-03S 77-09W	200	MRCC Callao
		Mollendo	007600129	17-01S 72-01W	200	MRCC Mollendo

<sup>1</sup> White Sea (Beloje More) to 66-00N.

<sup>2</sup> MF DSC stations operated by Hellenic Coast Guard.

<sup>3</sup> MF DSC stations owned by Hellenic Coast Guard, using ship station MMSI numbers.

<sup>4</sup> 150nm radius from 42-45N 133-02E starting at Korean coast to 42-33N 136-25E to Cape of Olarovskiy.



# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

## LIST OF OPERATIONAL HF DSC COAST STATIONS FOR SEA AREAS A3 AND A4

(Extracted from ANNEX 4 of the IMO GMDSS Master Plan)

NAV/MET Area	Country	HF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Frequency Band <sup>1</sup>	
I	Denmark	Lyngby	002191000	55-50N 11-25E	4,6,8,12,16 MHz	SOK, Aarhus
	Iceland	Reykjavik	002516200	64-05N 21-51W	4,6,8,12,16 MHz	MRCC Oceanic
II	Ghana	Tema	006270000	05-37N 00-00	4,6,8,12,16 MHz	Harbor Master's Office Accra
	Spain	Madrid (CCR)	002241078	40-22N 03-17W	8,12 MHz	MRCC Madrid
		MRCC Madrid*	002241008	-	8,12 MHz	
III	Bulgaria	Varna	002070810	43-04N 27-46E	4 MHz	MRCC Varna
	Cyprus	Cyprus	002091000	35-03N 33-17E	4,8,16 MHz	RCC Larnaca
	Egypt	Alexandria	006221111	31-12N 29-52E	4,6,8,12,16 MHz	RCC Cairo
	Greece	Olympia	002371000	37-36N 21-29E	4,6,8,12,16 MHz	JRCC Piraeus
		Piraeus JRCC <sup>2</sup>	237673000	37-58N 23-40E		
		Aspropirgos <sup>2</sup>	002391000	38-02N 23-35E		
	Romania	Constanta	002640570	44-07N 28-35E	4,6,8,12,16 MHz	Constanta Harbor Master
	Spain	Madrid (CCR)	002241078	40-22N 03-17W	8,12 MHz	MRCC Madrid
		MRCC Madrid*	002241008	-	8,12 MHz	
	Turkey	Istanbul	002711000	40-59N 28-49E	4,6,8,12,16 MHz	MRCC Ankara
IV	Canada	Iqaluit	003160023	63-44N 68-33W	4,6,8,12,16 MHz	RCC Trenton <sup>3</sup>
		Resolute (Rx)		74-45N 94-58W		
	United States	Boston	003669991	41-39N 70-30W	4,6,8,12,16 MHz	Atlantic SAR Coordinator (RCC Norfolk)
		Chesapeake	003669995	36-44N 76-01W		
		Miami	003669997	25-37N 80-23W		
		New Orleans	003669998	29-53N 89-57W		
V	Brazil	Manaus	007100003	03-07S 59-55W	4,6,8,12,16 MHz	MRCC Brazil (Rio de Janeiro)
		Recife	007100002	08-04S 34-55W		
		Rio	007100001	22-58S 43-41W		
VI	Argentina	Argentina Radio	007010111	34-36S 58-28W	4,6,8,12,16 MHz	MRCC Buenos Aires
		Comodoro Rivadavia	007010008	45-51S 67-25W		
		Mar del Plata	007010003	38-03S 57-32W		MRCC Puerto Belgrano
		Rio Gallegos	007010010	51-37S 65-03W		MRCC Ushuaia
	Uruguay	Montevideo	007703870	34-56S 56-09W	4,6,8,12,16 MHz	MRCC Montevideo
VII	South Africa	Cape Town	006010001	33-40S 18-43E	4,6,8,12,16 MHz	MRCC Cape Town
VIII	India	Port Blair	004194409	11-41N 92-46E	4,6,8,12,16 MHz	MRCC Port Blair
		Porbandar	004192202	21-38N 69-37E		MRCC Mumbai
		Haldia	004194404	22-02N 88-06E		MRCC Chennai
		Mandapam	004194406	09-17N 79-05E		

\*NOTE: The primary responsibility for the receipt of HF DSC distress alerts for Spain is carried out via Madrid (CCR) Radio. The HF DSC facility maintained at MRCC Madrid is only complementary to the Coast Radio Stations network.

NAV/MET Area	Country	HF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Frequency Band <sup>1</sup>	
VIII	India (cont.)	Daman	004192201	20-25N 72-52E	4,6,8,12,16 MHz	MRCC Mumbai
	Myanmar (Burma)	Yangon (Rangoon)	005060100	16-42N 96-17E	4,6,8,12,16 MHz	MRCC Yangon
IX	Kuwait	Kuwait Radio	004472188	29-22N 47-59E	4,6,8,12,16 MHz	
	Pakistan	Karachi	004634060	24-52N 67-01E	4,6,8,12,16 MHz	MRCC Karachi
X	Australia	RCC Australia	005030331	-	-	RCC Australia
		Charleville		26-20S 146-16E	4,6,8,12,16 MHz	
		Wiluna		26-21S 120-34E		
XI	China	Shanghai	004122100	31-06N 121-32E	4,6,8,12,16 MHz	MRCC Shanghai
	Indonesia	Amboina (Ambon)	005250006	03-41S 128-10E	4,6,8 MHz	MRCC Ujung Pandang
		Balikpapan	005250009	01-16S 116-49E	8 MHz	MRCC Surabaya
		Belawan	005250003	03-46N 98-41E	4,6,8,12,16 MHz	MRCC Jakarta
		Bitung	005250005	01-26N 125-10E	4,6,8,12,16 MHz	MRCC Ujung Pandang
		Dumai	005250004	01-41N 101-27E	4,6,8,12,16 MHz	MRCC Jakarta
		Jakarta	005250000	06-07S 106-51E	4,6,8,12,16 MHz	
		Jayapura	005250007	02-30S 140-43E	4,6,8,12,16 MHz	MRCC Biak
		Kupang	005250010	10-09S 123-34E	8 MHz	MRCC Ujung Pandang
		Makassar	005250002	05-06S 119-25E	4,6,8,12,16 MHz	
		Semarang	005250008	06-56S 110-25E	8 MHz	MRCC Surabaya
		Sorong	005250011	00-53S 131-00E	8 MHz	MRCC Biak
		Surabaya	005250001	07-12S 112-44E	4,6,8,12,16 MHz	MRCC Surabaya
		Cilacap	005250030	07-45S 109-02E	8 MHz	MRCC Jakarta
		Merauke	005250021	08-28S 110-23E	8 MHz	MRSC Merauke
	Japan	Tokyo Sea Patrol Radio	004310001	35-40N 139-45E	4,6,8,12,16 MHz	RCC Otaru RCC Shiogama RCC Yokohama RCC Nagoya RCC Kobe RCC Hiroshima RCC Kitakyushu RCC Maizuru RCC Niigata RCC Kagoshima RCC Naha
	Republic of Korea	Inchon Maritime Police	004401001	37-30N 126-30E	4,6,8,12,16 MHz	RCC Inchon
		Donghae Maritime Police	004401002	37-31N 129-07E		RCC Donghae
		Mokpo Maritime Police	004401003	34-46N 126-23E		RCC Mokpo
		Busan Maritime Police	004401004	35-07N 129-02E		RCC Busan
		Cheju Maritime Police	004401005	33-21N 126-49E		RCC Cheju
		Inchon	004400001	37-34N 126-41E		RCC Inchon

# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

NAV/MET Area	Country	HF DSC Coast Station				Associated RCC
		Name	MMSI	Position	Frequency Band <sup>1</sup>	
XI	Republic of Korea (cont.)	Kangnung	004400601	37-45N 128-53E	4,6,8,12,16 MHz	RCC Donghae
		Mokpo	004400301	34-48N 126-30E		RCC Mokpo
		Busan	004400101	35-06N 129-03E		RCC Busan
		Seoul	004400002	37-29N 128-43E		RCC Donghae
	Taiwan	Chi-lung (Keelung)	004162019	25-08N 121-45E	4,6,8,12,16 MHz	
	Thailand	Bangkok Radio (Nonthaburi)	005671000	13-34N 100-39E	4,6,8,12 MHz	RCC Bangkok
	Vietnam	Ho Chi Minh City	005741993	10-46N 106-40E	8 MHz	Saigon Port Authority
		Hai Phong	005741996	20-52N 106-42E	4,6,8,12,16 MHz	Hai Phong Port Authority
		Da Nang	005741999	16-04N 108-13E	6,8 MHz	Da Nang Port Authority
	Hong Kong (Associate Member of IMO)	Hong Kong Maritime Rescue	004773500	22-12N 114-15E	4,6,8,12,16 MHz	MRCC Hong Kong
XII	United States	Point Reyes	003669990	37-56N 122-44W	4,6,8,12,16 MHz	Pacific SAR Coordinator (RCC Alameda)
		Kodiak	003669899	57-46N 152-34W		
		Honolulu	003669993	21-26N 158-09W		
XIV	Fiji	RCC Suva	005201100	18-08S 178-26E	4,6,8,12,16 MHz	RCC Funafuti RCC Tonga RCC Nadi Nat. Surv. Center Samoa Mar. Div. Tarawa RCC Canberra
	New Zealand	Taupo Maritime Radio	005120010	38-52S 176-26E	4,6,8,12,16 MHz	RCC New Zealand
XV	Chile	Antofagasta	007250050	23-40S 70-25W	4 MHz	MRSC Iquique
		Isla de Pascua	007250100	27-11S 109-25W		MRSC Valparaiso
		Valparaiso	007251860	33-01S 71-39W	4,6,8,12,16 MHz	
		Talcahuano	007250170	36-42S 73-06W	4 MHz	MRSC Talcahuano
		Puerto Montt	007250230	41-47S 73-53W		MRSC Puerto Montt
		Punta Arenas (Magallanes)	007250380	53-10S 70-54W	4,8 MHz	MRSC Punta Arenas
XVI	Peru	Paita	007600121	05-05S 81-07W	8 MHz	MRCC Paita
		Callao	007600125	12-03S 77-09W		MRCC Callao
		Mollendo	007600129	17-01S 72-01W		MRCC Mollendo

<sup>1</sup> The following frequencies are allocated for HF DSC distress and safety communication by Radio Regulation (Article N38):

4 MHz = 4207.5 kHz    6 MHz = 6312 kHz    8 MHz = 8414.5 kHz    12 MHz = 12577 kHz    16 MHz = 16804.5 kHz

<sup>2</sup> Hellenic Coast Guard, for reasons of additional safety only, keeps 24 hour watch on HF DSC frequencies, using its own stations.

<sup>3</sup> Operational during navigation season only, approximately June 25 to November 30.

## PART II

### 410A. Requests for U.S. Navy Assistance in Emergency Situations

In view of the current and continuing threat of possible terrorist activity, seizure by hostile military forces, or piracy against U.S. flag and effective U.S. controlled (EUSC) merchant ships on the high seas, the requirement exists for the establishment and promulgation of emergency call-up procedures between U.S. merchant ships and units of the U.S. Navy for protection and assistance.

The following situations warrant immediate use of emergency communications to request assistance from the U.S. Navy:

- Attacks, threats of attack, or other hostile actions by military forces. Warning shots and/or observation of mining operations in international waters are included.
- Harassment by military forces. Threats or attempts of boarding and seizure or hostage taking are included.
- Terrorist attack (or threat) or seizure.
- Piracy.
- Request for rescue in the event of natural disaster if no acknowledgment is received through use of established distress and safety communications procedures.

**COMMUNICATIONS PROCEDURES:** Emergency communications from merchant ships in crisis situations essentially involve the reporting of incidents and requests for U.S. Navy protection or assistance on a real time basis. Requests for assistance will be submitted to Navy Fleet Command Centers by either commercial satellite (Inmarsat) or HF media. Commercial telephone numbers for Fleet Command Centers, Navy Communications Stations, and USCG Communications Stations are listed in Appendix A.

- Inmarsat Equipped Ships: Direct dial the appropriate Navy Fleet Commander Operations Control Center (OPCONCEN) to report the situation and request U. S. Navy assistance. If the direct dial attempt is unsuccessful, place a call via Inmarsat operator to the appropriate Navy Command Center.

If the call cannot be completed to the Fleet Commander, dial the appropriate Naval Computer and Telecommunications Area Master Station (NCTAMS) Joint Fleet Telecommunications Operations Center (JFTOC) or Naval Computer and Telecommunications Station (NAVCOMTELSTA) for patching relay to the Fleet Commander OPCONCEN. If direct dial effort is unsuccessful, place call to the communications station via the Inmarsat operator.

If contact cannot be made with the area NCTAMS JFTOC or NAVCOMTELSTA, a merchant ship should request the Inmarsat operator to place the call to USCG Area Operations Center (OPCEN) for notification to Fleet Commander. U.S. flag/EUSC ships operating in the North Arabian Sea and Persian Gulf area requiring assistance from U. S. Navy ships of COMUSNAVCENT

should call NAVCOMTELSTA Guam for direct patching via FM non-secure voice satellite communications.

- HF Equipped Ships: Upon establishing HF voice communications with the HF public coast radio station serving the merchant ship, request that the marine operator place a call to the appropriate Fleet Commander OPCONCEN for assistance, giving information in the prescribed format.

If a voice call via the coast station marine operator cannot be completed to the Fleet Commander OPCONCEN, the call should be placed to the closest NCTAMS JFTOC or NAVCOMTELSTA, USAF Communications Station, or USCG Communications Station for relay to the appropriate Navy Command Center.

If a merchant ship uses U.S. military HF facilities (Navy, Air Force, or Coast Guard Communications Stations) for a direct emergency voice communication request for assistance, the message will be relayed by the receiving facility to the appropriate Navy OPCONCEN for action. A listing of available HF frequencies by military facility and area is in Appendix B.

Ship to ship communications may be initiated by use of 2182 kHz or one of the Navy HICOM or tactical HF frequencies listed in Appendix B. However, Fleet Commander OPCONCEN approval is necessary prior to establishment of extended ship to ship communications between merchant ships and U. S. Navy afloat units.

- VHF Communications: 156.8 MHz (Ch. 16) is recommended for use by ships at line-of-sight or extended line-of-sight (15-30 miles) communications ranges.
- Direct Ship to Ship Communications Connectivity: If a Fleet Commander OPCONCEN considers it essential for a merchant ship to establish direct non-secure voice communications with U.S. Navy surface units, the merchant ship will be directed to call the appropriate NCTAMS or NAVCOMTELSTA Guam for a patch to be made between the commercial media (Inmarsat, HF) and the Navy's Fleet Satellite Communications (FLTSATCOM) system to a Navy ship by use of a conference bridge. If direct HF voice connectivity is required, the merchant ship and Navy unit will be assigned an appropriate frequency for coordination purposes.
- COMSC Charter Ships: Except in crisis situations, U.S. merchant ships under charter to COMSC would continue to use the procedures stated in the effective edition of MSC Communications Policies and Procedures Manual (CPPM).
- Billing: Billing will be in accordance with tariff regulations applicable to Inmarsat and HF public coast radio stations.

**NAVY ACTION:** Upon receipt of emergency transmission by the Fleet Commander OPCONCEN, the Navy will determine what action will be taken in response,

## **DISTRESS, EMERGENCY, AND SAFETY TRAFFIC**

e.g., dispatch of forces, establishing direct communications between the merchant ship and a Navy afloat unit, or providing guidance. Decision factors affecting Navy response are contingent upon U. S. Navy units available, proximity of U. S. Navy units to the merchant ship, and/or rules of engagement applicable to the theater of operations.

**CALL-UP PROCEDURES:** The following voice call-up procedure should be used by merchant ships if an indefinite call-up address is to be employed:

**ANY NAVY/AIR FORCE/COAST GUARD STATION GUARDING THIS NET, THIS IS SS EXAMPLE, EMERGENCY MESSAGE FOLLOWS.**

If the merchant ship is calling a specific Navy, Air Force, or Coast Guard station ashore, the voice calls listed in Appendix B apply. Merchant ships are cautioned that Navy shore stations and/or afloat units guarding HICOM or other tactical HF nets may respond with an alphanumeric daily changing call sign and advise the merchant ship to send traffic, and will not reveal the Navy unit's name to prevent compromise of the call sign.

Procedures for emergency incident reporting and/or requests for U. S. Navy assistance emphasize the use of voice communications between the merchant ship and the commands/facilities ashore and afloat as defined in Appendix A. Frequencies for HF voice and radiotelex (NBDP) communications are listed in Appendix B. Inmarsat equipped ships should file voice or telex traffic via appropriate earth stations. Emergency or distress messages received by non-U.S. Navy facilities will be immediately forwarded to the appropriate Navy Command Center.

**MESSAGE FORMAT:** The following format is recommended to provide for brevity and uniformity in reporting procedure:

- To Fleet Commander, Operations Control Center (as appropriate).
- Name of ship.
- International radio call sign and Inmarsat ID.
- Position (latitude/longitude).
- Date and time (GMT).
- Brief description (military attack, seizure, terrorist attack, mining, piracy, natural disaster).

Example:

TO COMPACFLT OPCONCEN

A. SS NOGALES

B. KCSD/1509999

C. LAT. 05N, LONG. 105E

D. 231800Z JAN 89

E. SHIP UNDER ATTACK BY MACHINE GUN AND RIFLE FIRE BY SMALL PATROL CRAFT AND BEING BOARDED BY PIRATES OR TERRORISTS. PERSONNEL CASUALTIES ON DECK.

F. REQUEST IMMEDIATE ASSISTANCE.

**SHAR:** The guidance provided above does not eliminate the need for submission of SHARs by merchant ships to NGA. Emergency procedures provide for transmission of a request for assistance to precede the SHAR.

**TESTING OF PROCEDURES/FACILITIES:** U.S. Navy and Air Force HF voice communications nets are dedicated to command and control of military units and air traffic control. These nets are not to be used for training purposes unless specifically designated by the Services and/or operational commanders for use by merchant ships as part of a scheduled exercise. Commercial communications systems (Inmarsat, HF) aboard ship may be used for personnel training and equipment check-out procedures by merchant ships by placing calls to the Fleet Commander OPCONCEN. Tests should be initiated from the merchant ship by dialing the appropriate Fleet Commander OPCONCEN for the ocean area involved. Shipping line owners are required to fund costs incurred for tests initiated by their ships. The Fleet Commander will determine if the calls should be extended to U. S. Navy afloat units via the FLTSATCOM interface at the NCTAMS or NAVCOMTELSTA Guam. The Fleet Commander may desire to use HF HICOM for exercise and training with COMSC chartered merchant ships as well as U.S. flag merchant ships not under Navy control during Naval Cooperation and Guidance for Shipping (NCAGS) exercises or for test prior to in-chop.

In addition to requesting direct assistance from the U.S. Navy, mariners should report acts of terrorism to the following:

- In the waters and ports of the United States, the FBI and the USCG.
- In areas outside U.S. territorial limits, the nearest U.S. Consulate Office (Regional Security Officer), the U. S. State Department (Operations Center), at (1) 202-647-1512, and NGA.

## **DISTRESS, EMERGENCY, AND SAFETY TRAFFIC**

### **APPENDIX A**

#### **OCEAN AREAS AND COMMAND CENTERS/COMMUNICATIONS FACILITIES**

The following provides a listing of U.S. Navy and Coast Guard Command Centers and Communications Stations, showing area of command and/or communications coverage:

Ocean Area - Navy Operations Control Centers and Communications Facilities, USCG Command Centers and Communications Facilities	Telephone Number
Mediterranean, Baltic, Gulf of Guinea	
UKMTO (United Kingdom Maritime Trade Operations)	971505523215/6007
MARLO (Maritime Liaison Office) Bahrain (24x7)	973-3940-1395
JFTOC NAPLES IT (24x7)	39-081-568-6057
COMLANTAREA COGARD PORTSMOUTH VA	(1) 757-398-6700, Telex 127775
CNE-CNA-CGF Maritime Operations Center (Battle Watch Floor)	39-081-568-4551/4552
Atlantic, Caribbean, Atlantic Approaches to Panama Canal, North Sea	
COMUSFLTFORCOM OPCONCEN NORFOLK VA	(1) 757-836-5397
NCTAMS LANT JFTOC NORFOLK VA	(1) 757-444-2124/4182
COMLANTAREA COGARD PORTSMOUTH VA	(1) 757-398-6231, Telex 127775
COGARD CAMSLANT CHESAPEAKE VA	(1) 757-421-6240/6247
Eastern Pacific, Mexico, Central America	
COMPACFLT OPCONCEN PEARL HARBOR HI	(1) 808-471-3201/5200
NCTAMS PAC JFTOC HONOLULU HI	(1) 808-653-5377/1760/0090
NAVCOMTELSTA SAN DIEGO CA	(1) 619-545-8928
COMPACAREA COGARD ALAMEDA CA	(1) 510-437-3701, Telex 172343
COGARD COMMSTA KODIAK AK	(1) 907-487-5778
COGARD CAMSPAC PT REYES CA	(1) 415-669-2047
Mid Pacific, Northern Pacific, Pacific Approaches to Panama Canal, South America	
COMPACFLT OPCONCEN PEARL HARBOR HI	(1) 808-471-3201/5200
NCTAMS PAC JFTOC HONOLULU HI	(1) 808-653-5377/1760/0090
NAVCOMTELSTA SAN DIEGO CA	(1) 619-545-8928
COMPACAREA COGARD ALAMEDA CA	(1) 510-437-3701, Telex 172343
COGARD COMMSTA KODIAK AK	(1) 907-487-5778
COGARD CAMSPAC PT REYES CA	(1) 415-669-2047
Western Pacific, South Pacific, Southeast Asia, Straits of Malacca, Sea of Japan, Indian Ocean	
COMPACFLT OPCONCEN PEARL HARBOR HI	(1) 808-471-3201/5200
NAVCOMTELSTA GUAM	671-355-5513/5326/5327/5328
NAVCOMTELSTA FAR EAST	81-311-743-7510
COGARD COMMSTA KODIAK AK	(1) 907-487-5778

## **DISTRESS, EMERGENCY, AND SAFETY TRAFFIC**

Ocean Area - Navy Operations Control Centers and Communications Facilities, USCG Command Centers and Communications Facilities	Telephone Number
Persian Gulf, Red Sea	
COMUSNAVCENT/BATTLEWATCH CAPTAIN BAHRAIN	973-17-85-3879/4577
NAVCOMTELSTA BAHRAIN	973-17-85-4185
(For Ships in the Persian Gulf)	
NAVCOMTELSTA GUAM	671-355-5513/5326/5327/5328
NAVCOMTELSTA BAHRAIN	973-17-85-4185
(For Ships in the Red Sea)	
JFTOC NAPLES IT	39-081-568-6057
COMLANTAREA COGARD PORTSMOUTH VA	(1) 757-398-6700, Telex 127775
Navy Communications Facilities With FLTSATCOM Interface Capability:	
Upon direction from Fleet Commander OPCONCEN, calls will be placed to the following Navy Communications Stations with conference bridge capability to establish unclassified ship to ship voice connectivity with Navy afloat units via Navy FLTSATCOM:	
NCTAMS LANT NORFOLK VA	(1) 757-445-9988/9989
JFTOC NAPLES IT	39-081-568-6141
NCTAMS PAC HONOLULU HI	(1) 808-653-0321
NAVCOMTELSTA GUAM	671-355-5513/5326/5327/5328

# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

## APPENDIX B

### HIGH FREQUENCIES GUARDED BY AIR FORCE, NAVY, COAST GUARD, AND COMMERCIAL STATIONS

#### AIR FORCE

Area	Control Station	Voice Call	SSB (carrier) Frequencies (in kHz)	Hours of Watch (GMT)
Southwest Pacific, Micronesia	ANDERSEN AFB GUAM	ANDERSEN	6738 8967 11176 13201 18002	0200-1200 24 hr. 24 hr. 24 hr. 2200-0700
Northwest Pacific, Sea of Japan,	YOKOTA AB JA	YOKOTA	4747 6738 8967 11236 13201 18002	1000-2100 0900-2400 24 hr. 24 hr. 2100-1000 0001-0900
Mid Pacific	HICKAM AFB HI	HICKAM	3144 6738 8964 11179 13201 18002	0600-1700 0400-0900 24 hr. 24 hr. 1700-0600 0001-0900
Northern Pacific	ELMENDORF AFB AK	ELMENDORF	6738 8989 11176 13201	24 hr. 24 hr. 24 hr. 24 hr.
Eastern Pacific, West Coast Continental U.S., Mexico	MCCLELLAN AFB CA	MCCLELLAN	4746 6738 8989 11239 15031 18002	0400-1600 0400-1600 24 hr. 24 hr. 1600-0400 1600-0400
Central and South America, (Atlantic and Pacific), Cuba, Hispaniola	ALBROOK AB PM	ALBROOK	5710 6683 8993 11176 15015 18019	0200-1200 0001-1400 24 hr. 24 hr. 1200-0200 0900-2400



# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

Area	Control Station	Voice Call	SSB (carrier) Frequencies (in kHz)	Hours of Watch (GMT)
Northern Atlantic, East Coast Continental U.S., Canada, Caribbean, Gulf of Mexico	MACDILL AFB FL	MACDILL	5688	Northern North Atlantic 0001-1400 24 hr.
			8989	
			11179	
			13244	
			18019	
				Central North Atlantic 0001-0900 0001-0900 0900-2400 24 hr.
			4746	
			6750	
			11179	
			11246	
			13244	
				Southern North Atlantic 0001-0900 0001-0900 24 hr. 24 hr.
			4746	
			6750	
			8993	
			11246	
			13244	
				Gulf of Mexico 0001-0900 0002-0900 24 hr. 24 hr.
			4746	
			6750	
			8993	
			11246	
Northern North Atlantic, Canada, Greenland	THULE AB GREENLAND	THULE	6738	(slight delay in answering)
			8967	
			13201	
Eastern North Atlantic, Iceland, North Sea, Baltic Sea	CROUGHTON AB, UK	CROUGHTON	3076	2300-0500
			5703	2100-0800
			6750	24 hr.
			9011	0500-2300
			11176	24 hr.
			13214	0800-2100
Eastern North Atlantic, Spain, Western Mediterranean, North Africa	LAJES AB PO (Acores)	LAJES	3081	2100-1000
			4746	2100-1000
			6750	24 hr.
			8967	24 hr.
			11226	1000-2100
			13244	1000-2100

# **DISTRESS, EMERGENCY, AND SAFETY TRAFFIC**

Area	Control Station	Voice Call	SSB (carrier) Frequencies (in kHz)	Hours of Watch (GMT)
South Atlantic, Cape of Good Hope, Western Indian Ocean, Red Sea	ASCENSION ISLAND AUXILIARY AB	ASCENSION	6753 8993 11176 13244 15015	2000-0800 24 hr. 1800-1000 1000-1800 0800-2000
Central and Eastern Mediterranean, Strait of Hormuz, Persian Gulf, Northern Red Sea	INCIRLIK AB TU	INCIRLIK	6738 11176 13244 15015	24 hr. 24 hr. 24 hr. 24 hr.

# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

## NAVY

Area	Control Station	Voice Call	SSB (carrier) Frequencies (in kHz)
Mediterranean, Eastern and Northern North Atlantic (COMUSNAVEUR HICOM NET)	NCTAMS EURCENT DET ROTA SP NAVCOMTELSTA SICILY IT Designated afloat units	AOK NSY “ANY NAVY STATION THIS NET”	2200-0600 Carrier Frequency: 6720 Upper Sideband: 6721.5  0600-2200 Carrier Frequency: 11255 Upper Sideband: 11256.5
Atlantic, Caribbean (COMUSFLTFOR COM)	NCTAMS LANT NORFOLK VA NCTAMS LANT DET KEY WEST FL NAVCOMTELSTA PUERTO RICO PR NAVCOMTELSTA KEFLAVIK IC	NAM NAR NAU NRK	24 hr. Carrier Frequency: 6687 Upper Sideband: 6698.5
HICOM Net	Navy Command Centers Ashore Designated afloat units	“ANY NAVY STATION THIS NET”	24 hr. Carrier Frequency: 23287 Upper Sideband: 23288.5
Indian Ocean Voice Net	NAVCOMTELSTA DIEGO GARCIA Designated afloat units	NKW “ANY NAVY STATION THIS NET”	0200-1300 Carrier Frequency: 23315 Upper Sideband: 23316.5  1300-0200 Carrier Frequency: 11205 Upper Sideband: 11206.5
Western Pacific HICOM Net	NAVCOMTELSTA GUAM NAVCOMTELSTA FAR EAST Designated afloat units	NPN NDT “ANY NAVY STATION THIS NET”	24 hr. Carrier Frequency: 6720 Upper Sideband: 6721.5  Carrier Frequency: 11205 Upper Sideband: 11206.5  Carrier Frequency: 11255 Upper Sideband: 11256.5  Carrier Frequency: 18009 Upper Sideband: 18010.5
Eastern and Central Pacific HICOM	NCTAMS PAC HONOLULU HI COMTHIRDFLEET NAVCOMTELSTA SAN DIEGO CA	NPM “ANY NAVY STATION THIS NET”	0600-1700 Carrier Frequency: 4415.4 Upper Sideband: 4417.7  24 hr. Carrier Frequency: 8777.4 Upper Sideband: 8779.2  1700-0600 Carrier Frequency: 13156.4 Upper Sideband: 13182.8

# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

## COAST GUARD (HF RADIOTELEPHONE)

Area	Station (Call Sign)	ITU Channel	SSB (carrier) Frequencies (in kHz)		
			Shore	Ship	Hours of Watch (GMT)
Atlantic	Boston MA (NMF)	424	4426	4134	2300-1100
		601	6501	6200	24 hr.
		816	8764	8240	24 hr.
		1205	13089	12242	1100-2300
		1625	17314	16432	on request
	CAMSLANT Chesapeake VA (NMN)	424	4426	4134	2300-1100
		601	6501	6200	24 hr.
		816	8764	8240	24 hr.
		1205	13089	12242	1100-2300
		1625	17314	16432	on request
	Miami FL (NMA)	424	4426	4134	2300-1100
		601	6501	6200	24 hr.
		816	8764	8240	24 hr.
		1205	13089	12242	1100-2300
		1625	17314	16432	on request
	New Orleans LA (NMG)	424	4426	4134	2300-1100
		601	6501	6200	24 hr.
		816	8764	8240	24 hr.
		1205	13089	12242	1100-2300
		1625	17314	16432	on request
Pacific	Kodiak AK (NOJ)	424	4125	4125	24 hr.
		424	4426	4134	on request
		601	6501	6200	24 hr.
		816	8764	8240	on request
		1205	13089	12242	on request
	CAMSPAC Point Reyes CA (NMC)	424	4426	4134	24 hr.
		601	6501	6200	24 hr.
		816	8764	8240	24 hr.
		1205	13089	12242	24 hr.
		1625	17314	16432	on request
	Honolulu HI (NMO)	424	4426	4134	0600-1800
		601	6501	6200	24 hr.
		816	8764	8240	24 hr.
		1205	13089	12242	1800-0600
		1625	17314	16432	on request
	Guam (NRV)	601	6501	6200	0900-2100
		1205	13089	12242	2100-0900

Note: Miami, Boston and New Orleans receive remoted to CAMSLANT Chesapeake (NMN). Honolulu and Guam receive remoted to CAMSPAC Point Reyes (NMC).

## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

### COAST GUARD (HF RADIOTELEX)

This net provides for common medium and long range radioteletype communications between all ship stations and COMMSTAs for safety and liaison traffic. Calling and working frequencies between shore and ships are in the paired duplex frequency modes indicated below. Stations follow the indicated schedule for frequency guards. Any changes wanted by area commanders to meet operational needs will be included in this schedule.

Area	Station (Call Sign)	ITU Channel	SITOR or NBDP (assigned) Frequencies (in kHz)		
			Shore	Ship	Hours of Watch (GMT)
Atlantic	CAMSLANT	404	4212	4174	on request
	Chesapeake VA (NMN)	604	6316	6264.5	2300-1100
	Selcall: 1097	824	8428	8388	24 hr.
	MMSI: 003669995	1227	12592.5	12490	24 hr.
		1627	16819.5	16696.5	24 hr.
		2227	22389.5	22297.5	1100-2300
Pacific	Kodiak AK (NOJ)	407	4213.5	4175.5	HN
	Selcall: 1106	607	6317.5	6266	24 hr.
	MMSI: 003669899	807	8419.5	8379.5	HJ
	CAMSPAC	412	4215.5	4178	on request
	Point Reyes CA (NMC)	620	6323.5	6272.5	HN
	Selcall: 1096	820	8426	8386	24 hr.
	MMSI: 003669990	1242	12600	12497.5	on request
		1620	16816.5	16693	HJ
		2220	22386	22294	on request
	Honolulu HI (NMO)	404	4212	4174	on request
	Selcall: 1099	604	6316	6264.5	on request
	MMSI: 003669993	827	8429.5	8389.5	24 hr.
		1220	12589	12486.5	24 hr.
		1627	16819.5	16696.5	on request
		2227	22389.5	22297.5	HJ
	Guam (NRV)	412	4215.5	4178	on request
	Selcall: 1096	612	6319.5	6268.5	on request
	MMSI: 003669994	812	8422	8382	HN
		1212	12585	12482.5	24 hr.
		1612	16812.5	16689	24 hr.
		2212	22382	22290	HJ

- Notes:
- (1) Selcall number is used for radiotelex (sitor). The Maritime Mobile Service Identity (MMSI) is used for Digital Selective Calling (DSC) and may also be used for radiotelex.
  - (2) For radiotelex the frequencies listed are assigned. The carrier or dial frequency is located 1.7 kHz below the assigned frequency.
  - (3) Honolulu and Guam are operated remotely by CAMSPAC Point Reyes (NMC).
  - (4) Time definitions:  
 HJ — Daytime (2 hours after sunrise until 2 hours before sunset, local time).  
 HN — Nighttime (2 hours before sunset until 2 hours after sunrise, local time).

## DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

### RADIOTELEX SERVICES AVAILABLE

COMMAND	EXPLANATION	RESPONSE
OBS+	WEATHER OBSERVATION (message must be in standard format)	MOM11+ MSG+
AMV+	AMVER MESSAGE (message must be in standard format)	MOM01+ MSG+
MED+	MEDICAL EMERGENCIES (signals an alarm at the coast station)	MOM07+ MSG+
URG+	SHIPBOARD DISTRESS/EMERGENCIES (signals an alarm at the coast station)	MOM20+ MSG+
TFC+	MISCELLANEOUS ROUTINE MESSAGES	MOM16+ MSG+
VES+	U.S. FISHERIES, POLLUTION OR OTHER REQUIRED VESSEL REPORT	MOM13+ MSG+
OPR+	OPERATOR ASSISTANCE	
FREQ+	FREQUENCY GUARD SCHEDULE LIST	
MSG+	DOWNLOADS SHORE-TO-SHIP MESSAGES (limited to government vessels)	
BRK+	BREAK OFF COMMUNICATIONS	
HELP+	LIST OF AVAILABLE COMMANDS	

### COMMERCIAL STATIONS (HF RADIOTELEX/NBDP)

Location	Station (Call Sign)	ITU Channel	Frequencies (kHz)	
			Shore	Ship
Mobile, Alabama, U.S.A.	Mobile (WLO) Selcall: 1090 MMSI: 003660003 Hours of watch: 24 hr.	406	4213	4175
		606	6317	6265.5
		806	8419	8379
		810	8421	8381
		815	8423.5	8383.5
		1205	12581.5	12479
		1211	12584.5	12482
		1605	16809	16685.5
		1615	16814	16690.5
		1810	19685.5	18875
		2215	22383.5	22291.5
		2510	26105.5	25177.5
Republic, Washington, U.S.A.	Republic (KKL) Selcall: 1150 Hours of watch: 1700-0100 GMT	824	2523.4	2523.4
			4016.4	4016.4
			8183.4	8183.4
			8429.4	8389.4
			12104.4	12104.4
			16345.4	16345.4
			19685.4	18874.9
			26105.4	25177.4

- Notes:
- (1) Station WLO is part of the ShipCom Radio Network. Frequencies listed are assigned.
  - (2) Radiotelex frequencies listed for Station KKL are ARQ carrier center frequency. When calling KKL ARQ, call for at least 60 seconds. KKL uses scanning transceivers on all frequencies except 2522.0 kHz. Each channel is scanned for approximately 10 seconds.
  - (3) AMVER messages may be sent free of charge through any of the above coast radio stations.

# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

## COMMERCIAL STATIONS (HF RADIOTELEPHONE)

Location	Station (Call Sign)	ITU Channel	SSB (carrier) Frequencies (in kHz)	
			Shore	Ship
Marina del Ray, California, U.S.A.	Marina del Ray (KNN) Hours of watch: 24 hr.	416	4402	4110
		814	8758	8234
		1203	13083	12236
		1616	17287	16405
		2214	22735	22039
Mobile, Alabama, U.S.A.	Mobile (WLO) Hours of watch: 24 hr.	405	4369	4077
		414	4396	4104
		607	6519	6218
		824	8788	8264
		830	8806	8282
		1212	13110	12263
		1226	13152	12305
		1607	17260	16378
		1641	17362	16480
		1807	19773	18798
Mobile, Alabama, U.S.A.	Mobile (WCL) Hours of watch: 24 hr.	2237	22804	22108
		2503	26151	25076
		403	4363	4071
		802	8722	8198
		1206	13092	12245
Republic, Washington, U.S.A.	Republic (KKL) Hours of watch: 1700-0100 GMT	1601	17242	16360
		2243	22822	22126
		421	4417	4125
		606	6516	6215
		821	8779	8255
Seattle, Washington, U.S.A.	Seattle (KLB) Hours of watch: 24 hr.	1221	13137	12290
		1621	17302	16420
		1806	19770	18795
		417	4405	4113
		805	8731	8207
		1209	13101	12254
		1624	17311	16429

Notes: (1) Stations KLB, KNN and WCL are part of the ShipCom Radio Network, operated remotely from Mobile (WLO).  
(2) AMVER messages may be sent free of charge through any ShipCom Radio Network station.

## **DISTRESS, EMERGENCY, AND SAFETY TRAFFIC**

### **COMMERCIAL STATIONS (HF DSC)**

Location	Station (Call Sign)	ITU Channel	Frequencies (in kHz)	
			Shore	Ship
Mobile, Alabama, U.S.A.	Mobile (WLO) MMSI: 003660003		4219	4208
			6331	6312.5
			8436.5	8415
			12657	12577.5
			16903	16805

### **FREQUENCY SELECTION GUIDE**

Time at Coast (Local)	Distance (NM)		
	200-750	750-1500	>1500
0000	3-5 MHz	6-9 MHz	6-11 MHz
0400	3-5 MHz	4-7 MHz	6-9 MHz
0800	3-7 MHz	6-11 MHz	11-22 MHz
1200	4-7 MHz	8-13 MHz	13-22 MHz
1600	4-7 MHz	8-13 MHz	13-22 MHz
2000	3-7 MHz	6-11 MHz	11-22 MHz



# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

## LIST OF INMARSAT COAST EARTH STATIONS

(Extracted from ANNEX 5 of the IMO GMDSS Master Plan)

NAV/MET Area	Country	Location	Ocean Area	Inmarsat Satellite Service	Associated RCC
I	Netherlands	Burum (Xantic)  (LES ID x12 and x22)	AOR-E (12)	-A,-B,-C,-E	MRCC Den Helder
			AOR-E (22)	-C	
			AOR-W (12)	-A,-B,-C,-E	
			AOR-W (22)	-C	
			IOR (12)	-A,-B,-E	
	Norway	Eik	AOR-E	-A,-B,-C	MRCC Stavanger
			AOR-W	-A,-B,-C	
			IOR	-A,-B,-C	
	Poland	Psary	AOR-E	-A,-B,-C	RCC Gdynia
			IOR	-A,-B,-C	
	United Kingdom	Goonhilly	AOR-E	-A,-B,-C,-E	MRCC Falmouth
			AOR-W	-A,-B,-C,-E	
			IOR	-A,-B,-C	
			POR	-A,-B,-C	
II	France	Pleumeur-Bodou	AOR-E	-A	MRCC Gris-Nez (MRCC Bremen for Inmarsat-E)
			AOR-W	-A	
			IOR	-A	
			POR	-A	
		Aussaguel	AOR-E	-B,-C,-E	
			IOR	-B,-C,-E	
	Portugal	Sintra	AOR-E	-C	MRCC Lisbon
III	Greece	Thermopylae	AOR-E	-A,-B,-C	Piraeus JRCC
			IOR	-A,-B,-C	
	Italy	Fucino	AOR-E	-A,-B,-C	MRCC Roma
			IOR	-A,-B,-C	
	Turkey	Ata	AOR-E	-A,-C	MRCC Ankara
			IOR	-A,-C	
	Ukraine	Odessa	AOR-E	-A	
			IOR	-A	
IV	Canada	Laurentides	AOR-E	-B	RCC Halifax
			AOR-W	-B	
	United States	Southbury	AOR-E	-A,-B,-C	RCC Norfolk
			AOR-W	-A,-B,-C	
V	Brazil	Tangua	AOR-E	-A,-B,-C	Salvamar-Su Este; Rio de Janeiro
VIII	India	Arvi	IOR	-A,-B,-C	
IX	Egypt	Maadi	AOR-E	-A	RCC Cairo
	Iran	Boumehen	IOR	-A,-C	
	Saudi Arabia	Jiddah	IOR	-A	RCC Jiddah

# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

NAV/MET Area	Country	Location	Ocean Area	Inmarsat Satellite Service	Associated RCC
IX	United Arab Emirates	Towi Al Sawan	IOR	-B	
X	Australia	Perth (Xantic) (LES ID x12 and x22)	IOR (12)	-C,	MRCC Australia (Canberra)
			IOR (22)	-A,-B,-C,-E	
			POR (12)	-A,-B,-C,-E	
			POR (22)	-A,-B,-C,-E	
XI	China	Beijing	IOR	-A,-B,-C	MRCC China
			POR	-A,-B,-C	
	Indonesia	Jatiluhur	IOR	-B	
	Japan	Yamaguchi	IOR	-A,-B,-C	RCC Yokohama RCC Nagoya RCC Kobe RCC Hiroshima RCC Kitakyushu RCC Maizuru RCC Niigata RCC Kagoshima RCC Naha
			POR	-A,-B,-C	RCC Otaru RCC Shiogama
	Malaysia	Kuantan	IOR	-A,-B	MRCC Port Klang
	Republic of Korea	Kumsan	IOR	-A,-C	RCC Incheon
			POR	-A,-C	
	Singapore	Sentosa	IOR	-A,-B,-C	Singapore Port Operations Control Center
			POR	-A,-B,-C	
	Thailand	Nonhaburi	IOR	-B,-C	RCC Bangkok
	Vietnam	Haiphong	IOR	-B,-C	MRCC Viet Nam
	Hong Kong (Associate Member of IMO)	Cape D' Aguilar	IOR	-A,-B	MRCC Hong Kong
			POR	-A,-B	
XII	United States	Santa Paula	POR	-A,-B,-C,-E	RCC Alameda
		Southbury	AOR-W	-A,-B,-C	RCC Norfolk
XIII	Russian Federation	Nakhodka	POR	-A	MRCC Vladivostok
		Nudol	AOR-E	-C	SMRCC Moscow
			IOR	-C	

# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

## LIST OF RESCUE COORDINATION CENTERS USING SHIP EARTH STATIONS

(Extracted from ANNEX 6 of the IMO GMDSS Master Plan)

NAV/MET Area	Country	RCC		SES DETAIL		
		Name	Position	ID	Type	Ocean Region Accessed
I	Estonia	MRCC Tallinn	59-24N 24-40E	492480040	Inmarsat-C	AOR-E
	Finland	RCC Turku	60-26N 22-15E	423002211	Inmarsat-C	AOR-E
	France	MRCC Gris Nez	50-52N 01-35E	422799256	Inmarsat-C	AOR-E
	Germany	MRCC Bremen	53-04N 08-48E	492621021	Inmarsat-C	AOR-E
	Latvia	MRCC Riga	57-02N 24-05E	427518510	Inmarsat-C	AOR-E
	Lithuania	MRCC Klaipeda	55-43N 21-06E	Tel: 327703310 Fax: 327703312 Tlx: 327703314	Inmarsat-B	AOR-E or IOR
	Russian Federation	MRCC Saint Petersburg	59-54N 30-14E	492509012	Inmarsat-C	AOR-E, IOR
	Sweden	MRCC Göteborg	57-28N 11-56E	Tel: 326590010 Fax: 326590011 Tlx: 326590013	Inmarsat-B	AOR-E, AOR-W, IOR
				426590010	Inmarsat-C	AOR-E, AOR-W, IOR
	United Kingdom	MRCC Falmouth	Falmouth	1441532	Inmarsat-A	AOR-E
				423200159	Inmarsat-C	AOR-W
				423200158	Inmarsat-C	AOR-E
II	France	MRCC Etel	47-40N 03-12W	422799025	Inmarsat-C	AOR-E
III	Croatia	MRCC Rijeka	45-20N 14-27E	423816510	Inmarsat-C	AOR-E
	Cyprus	RCC Larnaca	34-52N 33-37E	Tel: 321099990 Fax: 321099991 Tlx: 321099992	Inmarsat-B	AOR-E, IOR
				421099999	Inmarsat-C	AOR-E, IOR
	Greece	Piraeus JRCC	37-58N 23-40E	1133207	Inmarsat-A	AOR-E, IOR
				423767310	Inmarsat-C	AOR-E, IOR
	Russian Federation	MRCC Novorossiysk	44-41N 37-47E	Tel: 327325510 Fax: 327325515 Tlx: 327325518	Inmarsat-B	IOR
	(Caspian Sea)	MRCC Astrakhan	46-20N 48-00E	427310985	Inmarsat-C	IOR
IV	Ukraine	MRCC Odessa	46-29N 30-44E	492550019	Inmarsat-C	AOR-E
	Bermuda	RCC Bermuda	32-23N 64-41W	431010110	Inmarsat-C	AOR-E
	Canada	MRSC St. John's	-	431699930	Inmarsat-C	AOR-W
			-	431699931	Inmarsat-C	AOR-E
		JRCC Halifax	-	Tlx: 331699943	Inmarsat-B	AOR-W
			-	493020114	Inmarsat-C	AOR-E
			-	493020115	Inmarsat-C	AOR-W
		JRCC Trenton	-	431699928	Inmarsat-C	AOR-W
			-	431699929	Inmarsat-C	AOR-E
		JRCC Victoria	-	431699932	Inmarsat-C	AOR-W
			-	431699933	Inmarsat-C	POR
	France (Martinique)	MRCC Fort-de-France	14-36N 61-04W	422799244	Inmarsat-C	AOR-E
				422799024	Inmarsat-C	AOR-W

# DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

		RCC		SES DETAIL		
NAV/MET Area	Country	Name	Position	ID	Type	Ocean Region Accessed
IV	United States	RCC Norfolk	36-43N 76-12W	430370680	Inmarsat-C	AOR-W
				430370670	Inmarsat-C	AOR-E
V	Brazil	MRCC Brazil	22-53N 43-10W	471009910	Inmarsat-C	AOR-E, AOR-W
VI	Argentina	MRCC Puerto Belgrano	38-53S 62-06W	470128910	Inmarsat-C	AOR-E, AOR-W
VII	France (La Reunion)	MRCC La Reunion	20-56S 55-17E	422799193	Inmarsat-C	IOR
VIII	France (La Reunion)	MRCC La Reunion	20-56S 55-17E	422799193	Inmarsat-C	IOR
IX	Egypt	Suez Canal Authority	Ismailia Radio	1622570	Inmarsat-A	AOR-E
X	Australia	RCC Australia	35-15S 149-05E	450300458	Inmarsat-C	POR
	France (New Caledonia)	MRCC Noumea	22-17S 166-26E	422799194	Inmarsat-C	POR
XI	China	Beijing	N.I.	N.I.	N.I.	N.I.
	Hong Kong (Associate Member of IMO)	MRCC Hong Kong	Hong Kong	447735010	Inmarsat-C	POR
XIII	Russian Federation  (White Sea)	MRCC Vladivostok	43-07N 131-53E	492500379	Inmarsat-C	POR
		MRSC Yuzhno-Sakhalinsk	46-59N 142-43E	427311122	Inmarsat-C	POR
		MRSC Arkhangelsk	64-32N 40-32E	492509110	Inmarsat-C	AOR-E, IOR
XIV	French Polynesia	MRCC Papeete	17-32S 149-35W	422799192	Inmarsat-C	POR